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UNIVERSITY OF NEVADA BULLETIN

VOL. XV MAY 1, 1921 No. 3

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THE UNIVERSITY OF NEVADA CATALOGUE

1921-1922

With Record for 1920-1921

THIRTY-THIRD ANNUAL NUMBER

PUBLISHED QUARTERLY
BY THE
UNIVERSITY OF NEVADA
RENO, NEVADA

TYPOGRAPHICAL
UNION
LABEL
WASHOE

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OFFICE OF THE
BOARD OF REGENTS, UNIVERSITY OF NEVADA,
RENO, NEVADA, May 1, 1921.

To His Excellency, EMMET D. BOYLE,
Governor of the State of Nevada.

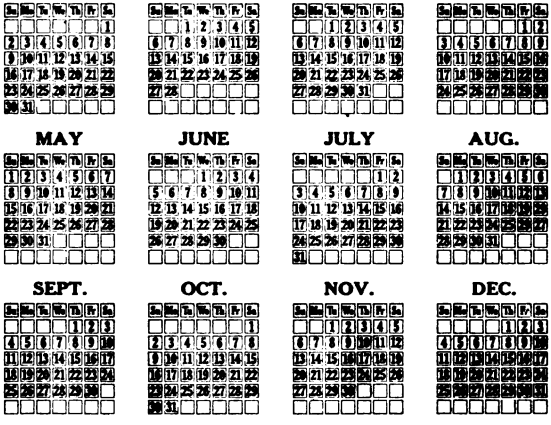
SIR: The Regents of the University of Nevada have the honor to submit herewith the Annual Catalogue of the University for the year 1920–1921, containing the courses of study, general information, the membership of the Faculty, and the enrollment of the students, as required by the Act of the Legislature approved March 6, 1901.

By the Board of Regents:

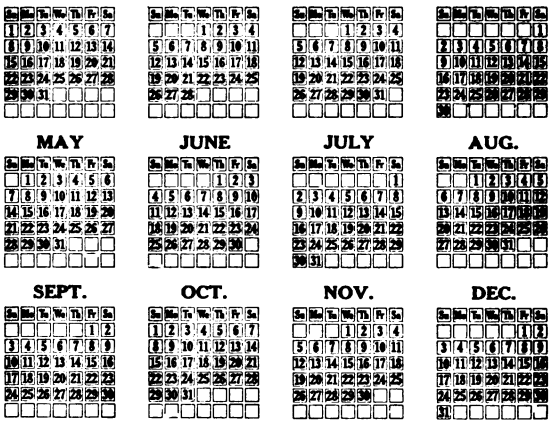
B. F. CURLER,
Chairman.

CAROLYN M. BECKWITH, *Secretary.*

1921 - CALENDAR - 1921



1922 - CALENDAR - 1922



UNIVERSITY CALENDAR

1921	FIRST SEMESTER	
September 5	Monday	Dormitories open to receive student residents
September 6–7	Tuesday–Wednesday	Examinations for admission
September 6–7	Tuesday–Wednesday	Reexaminations to remove conditions
September 6–7	Tuesday–Wednesday	Matriculation and registration
September 8	Thursday	Recitations and lectures begin in all departments
October 11	Tuesday	Registration closes
November 24–27	Thursday–Sunday	Thanksgiving recess
December 15–21	Thur.–Wed., 5 p.m.	Semester examinations
December 21	Wednesday, 5 p.m.	Holiday vacation begins
December 23	Friday, 12 m.	Final grades must be on file in Registrar's office
1922	SECOND SEMESTER	
January 3–4	Tuesday–Wednesday	Reexaminations to remove conditions
January 3–4	Tuesday–Wednesday	Registration
January 5	Thursday	Recitations and lectures begin in all departments
January 16	Monday	Prospectors' Short Course begins
February 7	Tuesday	Registration closes
February 10	Friday	Home-Makers' Short Course begins
February 22	Wednesday	Washington's Birthday
April 8	Saturday	Mackay Day
April 13–17	Thursday–Monday, inc.	Easter recess
May 1–8	Monday–Monday	Senior examinations
May 8–13	Monday–Saturday, 12 m.	Semester examinations
May 10	Wednesday	Senior standings must be on file in Registrar's office
May 14	Sunday	Baccalaureate sermon
May 15	Monday, 12 m.	Final grades must be on file in Registrar's office
May 16	Tuesday	Phi Kappa Phi address
May 17	Wednesday	COMMENCEMENT DAY
May 17	Wednesday p.m.	Alumni Day
June 19–July 28	Six weeks	Summer School

OFFICERS OF THE UNIVERSITY

THE BOARD OF REGENTS

HON. B. F. CURLER (1923) ..... [1]Elko
HON. WALTER E. PRATT (1925) ..... [1]Goldfield
HON. MRS. W. H. HOOD (1927) ..... Reno
HON. MILES E. NORTH (1929) ..... Reno
HON. GEORGE F. TALBOT (1931) ..... Elko

OFFICERS OF THE BOARD

HON. B. F. CURLER, Chairman ..... Reno
MR. GEORGE H. TAYLOR, Secretary Emeritus ..... Reno
MISS CAROLYN M. BECKWITH, Secretary ..... Reno
MR. CHARLES H. GORMAN, Comptroller ..... Reno

COMMITTEES OF THE BOARD

Executive Committee—B. F. CURLER, MILES E. NORTH, WALTER E. PRATT.

Finance Committee—MILES E. NORTH, MRS. W. H. HOOD, WALTER E. PRATT, B. F. CURLER.

Property Committee—GEORGE F. TALBOT.

Instruction Committee—MRS. W. H. HOOD.

Library Committee—WALTER E. PRATT.

Student-Welfare Committee—MILES E. NORTH.

HONORARY BOARD OF VISITORS

HON. J. A. SANDERS, Chairman ..... Carson City
HON. T. C. HART ..... Fallon, Churchill County
HON. J. I. EARL ..... Bunkerville, Clark County
MRS. H. F. DANGBERG ..... Minden, Douglas County
HON. JOHN HENDERSON ..... Elko, Elko County
HON. J. EMMETT WALSH ..... Goldfield, Esmeralda County
HON. WALTER J. HANDLEY ..... Eureka, Eureka County
HON. J. A. LANGWITH ..... Winnemucca, Humboldt County
HON. GEORGE A. MYLES ..... Austin, Lander County
MISS ISABEL OSBORNE ..... Ploche, Lincoln County
MRS. J. I. WILSON ..... Yerington, Lyon County
HON. J. H. MILLER ..... Hawthorne, Mineral County
HON. H. H. ATKINSON ..... Tonopah, Nye County
MISS ADA TORREYSON ..... Carson City, Ormsby County
HON. W. C. PITT ..... Lovelock, Pershing County
HON. JAMES LEONARD ..... Virginia City, Storey County
MISS DELLE B. BOYD ..... Reno, Washoe County
HON. C. S. CHANDLER ..... Ely, White Pine County

[1]Since election, these two members have changed their residence to Reno.

ADMINISTRATIVE OFFICERS

WALTER E. CLARK, Ph.D., LL.D., President.
ROBERT LEWERS, Vice-President.
CHARLES H. GORMAN, Comptroller.
LOUISE M. SISSA, Registrar.
MARGARET E. MACK, A.M., Dean of Women.
HELENA SHADE, B.A., Assistant Dean of Women.
ARCHIBALD EDWARDS TURNER, A.B., Master of Lincoln Hall.
JOSEPH B. LYNCH, Superintendent of Buildings and Grounds.

Colleges and Schools—

MAXWELL ADAMS, Ph.D., Dean of the College of Arts and Science.
FREDERICK H. SIBLEY, M.E., Dean of the College of Engineering.
ROBERT STEWART, Ph.D., Dean of the College of Agriculture.
JOHN W. HALL, M.A., Dean of the School of Education and Director of the Summer Session.
FRANCIS CHURCH LINCOLN, Ph.D., Director of the Mackay School of Mines.

Public Service Division—

FRANCIS CHURCH LINCOLN, Ph.D., Director of the State Mining Laboratory.
ALICE L. THOMPSON, M.D., Acting Director of the Hygienic Laboratory.
EDWARD RECORDS, V.M.D., Director of Veterinary Control Service.
SANFORD CROSBY DINSMORE, B.S., Commissioner, Food and Drugs Control and Weights and Measures.
SAMUEL BRADFORD DOTEN, M.A., Director of the Agricultural Experiment Station.
CHARLES ALBERT NORCROSS, B.A., Director of Agricultural Extension.

Central Clerical Staff—

CAROLYN M. BECKWITH, Secretary to the President.
KATHRYN SABLE, Departmental Stenographer.
LUCILE ROSENBROCK, Clerk, Comptroller's Office.
MRS. FREDA METCALF, Clerk, Comptroller's Office.

OFFICERS OF INSTRUCTION[1]

University Faculty[2]

WALTER ERNEST CLARK, Ph.D., LL.D., President of the University.

A.B., Ohio Wesleyan University, 1896; A.M., Ohio Wesleyan University, 1898; Ph.D., Columbia University, 1903; LL.D., Ohio Wesleyan University, 1918; Instructor in Mathematics, Ohio Wesleyan University, 1896–1899; Tutor in Philosophy, College of the City of New York, 1901–1902; Instructor in Philosophy, *ibid.*, 1902–1906; Assistant Professor of Philosophy, *ibid.*, 1906–1907; Associate Professor and Acting Head of the Department of Political Science, *ibid.*, 1907–1910; Professor and Head of the Department of Political Science, 1910–1918; Extension Lecturer in Economics, Columbia University, 1916–1918; President, University of Nevada, September, 1917–.

ROBERT LEWERS, Vice-President of the University; Professor of Business Administration.

Registrar, University of Nevada, 1890–1906; Professor of Political Economy, 1890–1911; Vice-President of the University of Nevada, 1906–; Professor of Elementary and International Law, and Teacher of Commercial Subjects, 1911–1913; Professor of Elementary and International Law and Accounting, 1913–1919; Acting President, 1912, 1914, 1917; Professor of Business Administration, 1919–.

[3]JAMES EDWARD CHURCH, JR., Ph.D., Professor of the Classics.

A.B., University of Michigan, 1892; Ph.D., University of Munich, 1901; Instructor in Latin and German, University of Nevada, 1892–1894; Assistant Professor of the Latin Language and Literature, 1894–1895; Associate Professor of the Latin Language and Literature, 1895–1896; Professor of the Latin Language and Literature, 1896–1918; Professor of the Classics, 1918–.

JEANNE ELIZABETH WIER, B.A., Professor of History.

B.Di., Iowa State Teachers' College, 1893; B.A., Leland Stanford Junior University, 1901; Acting Assistant Professor of History, University of Nevada, 1899–1901; Associate Professor of History, 1901–1906; Professor of History and Political Science, 1906–1917; Professor of History, 1917–.

PETER FRANDSEN, A.M., Professor of Biology.

A.B., University of Nevada, 1895; A.B., Harvard University, 1898; A.M., *ibid.*, 1899; Assistant Professor of Zoology and Bacteriology, University of Nevada, 1900–1902; Associate Professor of Zoology and Bacteriology, 1902–1903; Professor of Zoology and Bacteriology, 1903–1906; Professor of Biology, 1906–.

[4]ROMANZO ADAMS, Ph.D., Professor of Economics and Sociology.

B.Di., Iowa State Teachers' College, 1891; M.Di., *ibid.*, 1892; Ph.B., University of Michigan, 1897; Ph.M., *ibid.*, 1898; Ph.D., University of Chicago, 1904; Professor of Economics and Sociology, Western College (now Leander Clark College), 1898–1900; Professor of Education and Sociology, University of Nevada, 1902–1911; Professor of Economics and Sociology, 1911–1920.

MAXWELL ADAMS, Ph.D., Professor of Chemistry.

A.B., Leland Stanford Junior University, 1895; A.M., *ibid.*, 1896; Ph.D., University of Chicago, 1904; Instructor in Chemistry, Leland Stanford Junior University, 1896; Teacher of Science, Chico State Normal School, 1897–1900; Vice-President of the Chico State Normal School, 1901–1906; Professor of Chemistry, University of Nevada, 1906–.

HERBERT WYNFORD HILL, Ph.D., Professor of English.

B.L., University of California, 1900; Ph.M., University of Chicago, 1904; Ph.D., *ibid.*, 1911; Instructor in English, Utah State Agricultural College, 1900–1903; Instructor in English, University of Texas, 1904–1906; Professor of English, University of Nevada, 1907–.

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[1]The record of teaching experience does not include work in high schools or academies, nor University instruction as fellows or student assistants. Summer-school and extension instruction is also excluded.

[2]The President, Vice-President, Deans, Librarian, Registrar, and all persons with the rank of instructor or above, who give instruction in any of the regular college departments of the University, constitute the University Faculty.

[3]The order beginning here is seniority.

[4]Resigned December 24, 1920.

JOSEPH DIEFFENBACH LAYMAN, B.L., Lecturer and Librarian.

B.L., University of California, 1888; First Assistant Librarian, University of California, 1888–1907; Lecturer and Librarian, University of Nevada, 1907–.

HORACE PRENTISS BOARDMAN, C.E., Professor of Civil Engineering.

B.S., University of Wisconsin, 1894; C.E., *ibid.*, 1911; Professor of Civil Engineering, University of Nevada, 1907–.

LEON WILSON HARTMAN, Ph.D., Professor of Physics.

B.S., Cornell University, 1898; A.M., *ibid*, 1899; Ph.D., University of Pennsylvania, 1903; Assistant Instructor in Physics, Cornell University, 1900–1901; Professor of Physics, Kansas Agricultural College, 1901–1902; Instructor in Physics, Cornell University, 1904–1905; Assistant Professor of Physics, University of Utah, 1905–1906; Associate Professor of Physics, 1906–1909; Professor of Physics, University of Nevada, 1909–.

CHARLES HASEMAN, Ph.D., Professor of Mathematics and Mechanics.

A.B., Indiana University, 1903; A.M., *ibid.*, 1906; Ph.D., Göttingen University, 1907; Instructor in Mathematics, Indiana University, 1907–1908; Assistant Professor of Mathematics, 1908–1909; Associate Professor of Mathematics and Mechanics, University of Nevada, 1909–1910; Professor of Mathematics and Mechanics, 1910–.

FRANCIS CHURCH LINCOLN, Ph.D., Professor of Mining.

B.S., Massachusetts Institute of Technology, 1900; E.M., New Mexico School of Mines, 1904; A.M., Columbia University, 1906; Ph.D., *ibid.*, 1911; Professor of Geology, New Mexico School of Mines, 1901–1902; Professor of Metallurgy, 1902–1904; Professor of Geology, Montana State School of Mines, 1907–1910; Associate in Mining Engineering, University of Illinois, 1911–1912; Assistant Professor of Mining Engineering, 1912–1913; Professor of Mining and Metallurgy, University of Nevada, 1914–1916; Professor of Mining, 1916–.

FREDERICK WESTON WILSON, M.S., Professor of Animal Husbandry.

B.S., Kansas State Agricultural College, 1905; M.S., University of Illinois, 1913; Professor of Animal Husbandry, University of Arizona, 1913–1914; Professor of Animal Husbandry, University of Nevada, 1914–.

REUBEN CYRIL THOMPSON, M.A., Professor of Philosophy.

B.A., McMinnville College, 1899; B.A., Harvard University, 1901; M.A., *ibid.*, 1902; Teacher in Latin, Albion State Normal School, Idaho, 1905–1908; Instructor in Latin and Greek, University of Nevada, 1908–1909; Assistant Professor of Latin and Greek, 1909–1910; Associate Professor of Latin and Greek, 1910–1914; Professor of Latin and Greek, 1914–1915; Professor of Philosophy, 1915–.

J CLAUDE JONES, A.B., Professor of Geology and Mineralogy.

A.B., University of Illinois, 1902; Assistant in Geology, University of Illinois, 1904–1905; Instructor in Mineralogy and Geology, University of Nevada, 1909–1910; Assistant Professor of Geology and Mineralogy, 1910–1914; Professor of Geology and Mineralogy, University of Nevada, 1914–.

WALTER S. PALMER, E.M., Professor of Metallurgy.

B.S., University of Nevada, 1905; E.M., Columbia School of Mines, 1907; Instructor in Mining and Metallurgy, University of Nevada, 1910–1913; Assistant Professor of Mining and Metallurgy, 1913–1916; Professor of Metallurgy, 1916–.

[1]CHARLES WORTHEN SPENCER, Ph.D., Professor of Political Science.

A.B., Colby College, 1890; Ph.D., Columbia University, 1905; Professor of History, Colgate University, 1895–1905; Assistant Professor of History and Politics, Princeton University, 1905–1916; Professor of Political Science, University of Nevada, 1916–.

ALBERT ELLSWORTH HILL, A.B., Professor of English.

A.B., University of Chicago, 1899; Assistant in English, University of Chicago, 1905–1907; Associate in English, 1907–1909; Instructor in English, 1909–1913; Assistant Professor of English, University of Nevada, 1913–1914; Associate Professor of English, 1914–1916; Professor of English, 1917–.

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[1]Resigned June 30, 1921.

JAMES REED YOUNG, Ph.D., Professor of Psychology.

B.L., Berea University, 1907; A.B., Leland Stanford Junior University, 1909; A.M., *ibid.*, 1910; Ph.D., University of Chicago, 1916; Teacher San Diego Normal Training School, 1910–1912; Instructor in History of Education, University of Chicago, 1913–1915; Associate Professor of Education, University of Nevada, 1915–1917; Professor of Education, 1917–1920; Professor of Psychology, 1920–.

[1]MILLICENT LURA SEARS, B.S., Professor of Home Economics.

B. S., Columbia University, 1916; Assistant in Foods and Cookery, Teachers College, Columbia University, 1914–1916; Head of Home Economics Department, National Park Seminary, 1916–1917; Professor of Home Economics, University of Nevada 1917–1920.

JOHN PAUL RYAN, Colonel U.S.A., Professor of Military Science and Tactics.

U. S. Military Academy, 1888; Professor of Military Science and Tactics, University of Nevada, 1917–; Commanding Officer, S. A. T. C. October, 1918–January, 1919.

STANLEY GUSTAVUS PALMER, M.E., Professor of Electrical Engineering.

B.S., University of Nevada, 1909; M.E., Cornell University, 1910; Instructor in Electrical Engineering, University of Nevada, 1915–1916; Assistant Professor of Electrical Engineering, 1917–1918; Professor of Electrical Engineering, September, 1918–.

VERNER E. SCOTT, B.S., Professor of Dairying.

B.S., University of Wisconsin, 1911; Instructor in Dairying, University of Nevada, 1912–1915; Acting Instructor in Animal Husbandry, 1913–1914; Professor of Dairying, 1919–.

[2]ABBIE LOUISE DAY, B.S., Professor of Education.

B.S., Columbia University, 1912; Diploma in Elementary Supervision, Teachers College, Columbia University, 1912; Special Methods Teacher and Critic, State Normal School, Moorhead, Minnesota, 1908–1909; Teacher of Theory and Practice and Critic, State Normal School, Marquette, Michigan, 1910–1911; Instructor in Education, University of Cincinnati, 1912–1917; Associate in Education, University of Cincinnati, 1917; Supervisor of City Elementary Schools, Cincinnati, 1912–1917; Elementary Supervisor, Cleveland Heights, Ohio, 1918; Assistant Superintendent of Schools, Passaic, New Jersey, 1918–1919; Professor of Education, University of Nevada, 1919–1920.

[3]CHARLES GOGGIO, Ph.D., Professor of Romanic Languages and Literatures.

A.B., Harvard University, 1910; A.M., University of Wisconsin, 1914; Ph.D., *ibid.*, 1919; Acting Instructor of French, Dartmouth College, 1910–1911; Lecturer in French, Trinity College of the University of Toronto, 1911–1912; Instructor in French, Swathmore College, 1912–1913; Assistant in Romance Languages, University of Wisconsin, 1913–1915; Instructor in Romance Languages and Literatures, University of Nevada, 1915–1916; Assistant Professor of Romance Languages and Literatures, 1916–1917; Associate Professor of Romanic Languages and Literatures, 1917–1919; Professor of Romanic Languages and Literatures, 1919–1920.

JOHN WILLIAM HALL, M.A., Professor of Education.

Principal Normal Practice School, 1890–1892; Principal Franklin School, Observation School of the University of Buffalo, 1895–1897; Superintendent Training Department, Colorado Teachers College, 1898–1900; B.S., Teachers College, Columbia University, 1901; M.A., Columbia University, 1902; Teacher of Psychology and History of Education, New York Training School for Teachers, 1901–1905; Professor Elementary Education, University of Cincinnati, 1905–1920; Professor of Education, University of Nevada, 1920–.

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[1]Resigned September 1, 1920. [2]Resigned December 31, 1920.
[3]Resigned August 1, 1920.

FREDERICK H. SIBLEY, M.E., Professor of Mechanical Engineering.

Ph.B., Brown University, 1898; M.E., Case School of Applied Science, 1905; Professor of Mechanical Engineering, University of Alabama, 1907–1912; Professor of Mechanical Engineering, University of Kansas, 1912–1920; Professor of Mechanical Engineering, University of Nevada, 1920–.

ROBERT STEWART, Ph.D., Professor of Agronomy.

B.S., Utah Agricultural College, 1902; Ph.D., in Agronomy, University of Illinois, 1909; Assistant Chemist, Utah Experiment Station, 1902–1905; Assistant Professor of Chemistry, Utah Agricultural College, 1905–1908; Professor of Chemistry and Station Chemist, Utah Agricultural College, 1908–1915; Professor of Soil Fertility, University of Illinois, 1915–1920; Professor of Agronomy, University of Nevada, 1920–.

SARAH LOUISE LEWIS, B.S., Professor of Home Economics.

B.S., Columbia, 1919; Instructor at Oregon Agricultural College, 1912–1915; Assistant Professor, Oregon Agricultural College, 1915–1917; Professor of Household Science and Head of Department, O. A. C., 1919–1920; Professor of Home Economics, University of Nevada, 1920–.

BENJAMIN FRANKLIN SCHAPPELLE, Ph.D., Professor of the Romanic Languages and Literatures.

A.B., Dickinson College, 1908; A.M., *ibid.*, 1911; Diplome de L'Alliance Francaise University of Poitiers, 1914; Ph.D., University of Pennsylvania, 1917; Acting Head of the German Department, Dickinson College, 1910–1911; Instructor in French, Pennsylvania College, 1911–1912; Head of the Department of Romanic Languages, 1912–1916; Assistant Instructor in Romanic Languages, University of Pennsylvania, 1916–1917; Assistant Professor of Romanic Languages and Literatures, University of Nevada, 1917–1918; Assistant Professor of Romanics, University of Pennsylvania, 1918–1921; Professor of Romanic Languages, University of Nevada, 1921–.

Associate Professors[1]

KATHERINE LEWERS, Associate Professor of Freehand Drawing.

Instructor in Freehand Drawing, University of Nevada, 1905–1907; Assistant Professor of Freehand Drawing, 1907–1914; Associate Professor of Freehand Drawing, 1914–.

KATHARINE RIEGELHUTH, M.A., Associate Professor of German.

B.A., University of Nevada, 1897; M.A., Columbia University, 1913; Instructor in German, University of Nevada, 1905–1916; Assistant Professor of German, 1916–1917; Associate Professor of German, 1917–.

ELSIE SAMETH, B.S., Associate Professor of Physical Education for Women.

A.B., Cornell University 1911; B.S., Columbia University, 1911; Instructor in Physical Education for Women, University of Nevada, 1913–1915; Assistant Professor of Physical Education for Women, 1915–1918; Associate Professor, 1918–.

ARCHIBALD EDWARDS TURNER, B.A., Associate Professor of Oral English.

A.B., Nebraska Wesleyan University, 1895; Instructor, Columbia College of Expression, 1897–1899; Professor of Public Speaking, Nebraska Wesleyan University, 1899–1910; Instructor in Public Speaking, University of Nevada, 1913–1915; Assistant Professor of Public Speaking, 1915–1918; Associate Professor of Oral English, 1918–.

STEPHEN LOCKETT, V.M.D., Associate Professor of Veterinary Science.

V.M.D., University of Pennsylvania, 1906; Instructor in Veterinary Anatomy, University of Pennsylvania, 1907–1908; Assistant Professor in Veterinary Medicine, University of Pennsylvania, 1909–1910; Field Agent in Animal Diseases, Agricultural Extension Division and State Veterinary Control Service, University of Nevada, 1915–; Associate Professor in Veterinary Science, 1920–.

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[1]Order of seniority.

JAMES ANDREW NYSWANDER, B.S., Associate Professor of Mathematics and Mechanics.

B.S., University of California, 1913; Instructor in Mathematics and Mechanics, University of Nevada, 1915–1917; Assistant Professor of Mathematics and Mechanics, 1917–1918; Associate Professor, 1918–.

GEORGE WALLACE SEARS, Ph.D., Associate Professor of Chemistry.

B.S., Drury College, 1908; M.S., University of Illinois, 1911; Ph.D., University of Illinois, 1914; Instructor in Chemistry, University of Illinois, 1914–1917; Instructor in Chemistry, University of Nevada, 1917–1918; Associate Professor of Chemistry, 1918–.

[1]WILLIAM ERNEST LOWTHER, Ph.D., Associate Professor of Romanic Languages and Literatures.

B.S., Marion (Ind.) Normal College, 1901; Principal Anglo-Chinese School, Ipoh, Federated Malay States, Malaysia, 1902–1905; Anglo-Chinese School, Penang, Malaysia, 1905–1906; Ph.D., Iowa Christian College, 1909; Pastor French Methodist Episcopal Church, Algiers, Africa, 1910–1911; Student, University of Algiers, 1910; Pastor Spanish Methodist Episcopal Church, Oran, Africa, 1911–1914; Diploma for Spanish Language and Literatures, Instituto de Burgos, Spain, 1912; Pastor First Methodist Episcopal Church, Reno, 1915–1919; Instructor in Modern Languages, Reno High School, 1916–1917; Associate Professor of the Romanic Languages and Literatures, University of Nevada, 1919–1921.

RAYMOND ORLANDO COURTRIGHT, B.A., Associate Professor of Physical Education for Men.

A.B., Oklahoma University, 1914; Head Physical Director and Coach at Oklahoma University Preparatory School, 1914–1915; Certificate in all Major Sports, University of Illinois, 1915; Head Coach at Kansas State Manual-Training Normal School, 1915–1919; Associate Professor of Physical Education for Men, University of Nevada, 1919–.

FRED W. TRANER, M.A., Associate Professor of Education.

A.B., Beloit College, 1908; M.A., University of California, 1920; Instructor in Education, University of Nevada, 1915–1918; Assistant Professor of Education, 1918–1920; Associate Professor of Education, 1920–.

SIDNEY WARREN WILCOX, B.L., Associate Professor of Economics and Sociology.

B.L., University of California, 1905; B.D., Pacific School of Religion, 1910; Assistant Professor of Economics and Sociology, University of Nevada, January, 1920; Associate Professor of Economics and Sociology, 1921–.

Assistant Professors

ALBERT WILLIAM PRESTON, Assistant Professor of Mechanical Engineering.

Instructor in Mechanical Engineering, University of Nevada, 1910–1914; Assistant Professor of Mechanical Engineering, 1914–.

SILAS CALVIN FEEMSTER, A.M., Assistant Professor of History.

A.B., Drury College, 1907; A.M., University of Nebraska, 1912; Professor of Latin and History, York College, 1907–1910; Assistant in History and Political Science, University of Nevada, 1913–1915; Instructor in History and Political Science, 1915–1916; Assistant Professor of History, 1917–.

MARGARET ELIZABETH MACK, A.M., Assistant Professor of Biology.

B.S., University of Nevada, 1910; A.M., Columbia University, 1913; Instructor in Biology, University of Nevada, 1913–1917; Assistant Professor of Biology, 1917–.

CYRUS WILLIAM LANTZ, A.M., Assistant Professor of Botany and Horticulture.

A.B., University of Illinois, 1913; A.M., *ibid.*, 1914; Assistant in Botany, University of Illinois, 1914–1915; Assistant Professor of Botany and Horticulture, University of Nevada, 1917–.

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[1]Resigned April 1, 1921.

CLIFTON ROY HILL, C.E., Assistant Professor of Civil Engineering.

C.E., Polytechnic Institute of Brooklyn, 1917; Instructor in Civil Engineering, University of Nevada, September, 1917; Assistant Professor of Civil Engineering, 1918–.

GEORGE HARDMAN, M.S., Assistant Professor of Agronomy.

B.S.A., Oregon Agricultural College, 1915; M.S., *ibid.*, 1916; Assistant Professor of Agronomy, University of Nevada, 1919–.

GILBERT BRUCE BLAIR, A.M., Assistant Professor of Physics.

A.B., Tabor College, 1902; A.M., Washburn College, 1904; Assistant in Physics and Astronomy, Washburn College, 1904–1905; Assistant in Alleghany Observatory, 1905–1906; Professor of Physics, Morningside College, 1907–1909; Instructor and Assistant Professor of Physics, Oregon Agricultural College, 1912–1919; Assistant Professor of Physics, University of Nevada, 1919–.

JESSIE P. POPE, B.S., Assistant Professor in Home Economics.

B.S., University of Nebraska, 1913; Instructor in Home Economics, University of Nevada, 1918–1920; Assistant Professor in Home Economics, University of Nevada, 1920–.

JOHN FREDERICK GROSS HICKS, Ph.D., Assistant Professor of Chemistry.

B.S., University of Pennsylvania, 1906; M.S., University of Illinois, 1916; Ph.D., *ibid.*, 1918; Instructor in Chemistry, Medico-Chirurgical College of Philadelphia, 1906–1907; Professor of Chemistry, Villanova College, 1907–1910; Chemist in Charge Naphthaline Plant, Philadelphia, 1910–1912; Chemist in Charge Laboratory at Fernwood, 1912–1914; Associate Professor of Chemistry, Oklahoma State College, 1914–1915; Assistant Professor of Inorganic Chemistry, Oregon Agricultural College, 1918–1919; Professor of Inorganic Chemistry, Oregon Agricultural College, 1919–1920; Acting Instructor in Inorganic Chemistry, Leland Stanford Junior University, 1920–1921; Assistant Professor of Chemistry, University of Nevada, 1921–.

AGARD H. BAILEY, Major U. S. A., Assistant Professor of Military Science and Tactics.

U. S. Military Academy, 1908; Lieutenant-Colonel of Infantry, A. E. F., 1917–1919; Fort Logan, Colorado, 1919–1921; Assistant Professor of Military Science and Tactics, University of Nevada, 1921–.

WILL C. STEINBRUNN, M.A., Assistant Professor in Romanic Languages.

A.B., University of California, 1913; M.A., *ibid.*, 1914; Instructor of German, Stanford University, 1917–1918; Instructor of Romanic Languages, University of Nevada, 1921; Assistant Professor of Romanic Languages, University of Nevada, 1921–.

Instructors

CHARLES LEROY BROWN, M.A., Instructor in Biology.

B.A., University of Nevada, 1912; M.A., *ibid.*, 1913; Instructor in Biology, University of Nevada, 1918–.

CATHARINE FRANCES SOMERS, B.A., Instructor in Physical Education.

Special Certificate in Physical Education, Los Angeles State Normal School, 1917; B.A., University of Nevada, 1920; Instructor in Physical Education for Women, University of Nevada, 1919–.

EMMA CAROLINE DIEHM, Instructor in Music, School of Education.

Supervisor of Music, Malone, New York, 1909–1911; Supervisor of Music, Winchester, Massachusetts, 1911–1914; Assistant in Music, Boston, 1914–1919; Instructor in Music, School of Education, University of Nevada, 1919–.

HOMER DERR, B.S., M.S., Nevada State Director Vocational Education.

B.S., Kansas State Agricultural College, 1900; M.S., Kansas State Agricultural College, 1907; Professor Agricultural Education, University of Arizona, 1918–1919; Instructor in Agricultural Education, University of Nevada, 1919–.

CLARENCE H. KENT, B.S., Instructor in Mechanical Engineering.

B.S. in Electrical Engineering, Purdue University, 1915; Assistant in Mechanical Engineering, 1920; Instructor in Mechanical Engineering, *ibid.*, 1920–.

SYLVIA CAMPIGLIA, B.S., State Supervisor Home Economics.

B.S., Columbia University, 1916; Supervisor Home Economics, City Schools, San Jose, Calif., 1913–1915; Instructor in Home Economics and Supervisor of Home Economics Practice School, State Manual-Training Normal, Pittsburg, Kansas, 1916–1918; Instructor Home Economics, University of Minnesota, 1918; one year shop experience in New York City, 1918–1919; State Supervisor Home Economics Education and Instructor of Teacher-Training Department Home Economics, University of Nevada, 1920–.

CHARLES B. WILLIAMS, Instructor in Physical Education for Men.

Physical Director and Coach, John Hancock High School, 1917–1919; Physical Director and Coach, Elmira Free Academy, and Basketball Coach, Elmira Athletic Club, 1919–1920; Graduate University of Illinois Summer School of Coaching, 1920; Instructor in Physical Education for Men, University of Nevada, 1920–.

FRANK ENOS WELCH, A.M., Instructor in Romanic Languages.

A.B., University of Michigan, 1887; A.M., Tulane University, 1897; Professor of Greek, Latin, and French, Trinity College, Durham, N. C., 1889–1893; Professor of French and German, Orchard Lake Military Academy, Orchard Lake, Michigan, 1900–1901; Bureau of Education, Philippine Islands, 1901–1911; Instructor in Romanic Languages, University of Nevada, September-December, 1920–.

VIOLA HALL, Instructor in Elementary Education.

Graduate of Two-year Normal Course, National Teachers' Seminary, Milwaukee, Wisconsin, 1908; Summer Session, Columbia University, 1918; Training Teacher at Teachers' College, University of Cincinnati, 1917–1921; Instructor in Elementary Education, University of Nevada Spring Semester and Summer Session, 1921.

M. JULIA DETRAZ, M.A., Instructor in Education.

B.A., University of Cincinnati. 1910; M.A., Teachers College, Columbia University, 1918; Elementary Supervisor and Demonstration Teacher, Oswego Normal School, New York, 1915–1917; Demonstration Teacher, Horace Mann School, Teachers College, 1917–1921; Instructor in Education, University of Nevada, 1921–.

Assistants

BENSON DILLON BILLINGHURST, B.S., LL.B., Lecturer in Education.

B.S., Ohio Wesleyan University, 1897; LL.B., University of Washington, 1908; Superintendent of Schools, Prescott, Arizona, 1900–1907; Superintendent of Schools, Reno, Nevada, 1908–; Lecturer in Education, University of Nevada, 1920–.

MARGARET DEWAR, A.B., Assistant in Chemistry.

A.B., University of California, 1919; Assistant in Chemistry, University of Nevada, 1919–1921.

[1]WILLARD E. BENNING, Regimental Sergeant-Major, Assistant in Military Department, 1919–1920.

ENOC E. VAUGHN, First Sergeant, Military Department, 1920–.

[1]Transferred to Texas, December, 1920.

ARTHUR T. HARRISON, Lieutenant, O. R. C., Assistant Commandant, Military Department, 1920–.

WILLIAM E. LESCH, Sergeant, Assistant in Military Department, 1920–.

STANDING COMMITTEES OF THE UNIVERSITY FACULTY

The first-named member of any Committee is its Chairman, to whom all matters of business should be referred.

Admission and Advanced Standing—

R. C. THOMPSON, J. A. NYSWANDER, G. W. SEARS.

Registration and Scholarship—

M. ADAMS, R. STEWART, F. H. SIBLEY, J. W. HALL, MISS MACK, MISS SISSA.

Schedules—

C. R. HILL, S. C. FEEMSTER, C. H. KENT.

Athletics—

C. HASEMAN, R. O. COURTRIGHT, MISS SOMERS.

Library—

F. W. WILSON, A. E. HILL, S. G. PALMER, MISS WIER, J. D. LAYMAN.

Scholarships and Prizes—

W. S. PALMER, G. B. BLAIR, S. W. WILCOX.

Student Affairs—

R. LEWERS, MISS MACK, A. E. TURNER.

High-School Relationship—

P. FRANDSEN, J C. JONES, J. R. YOUNG, MISS RIEGELHUTH, F. W. TRANER, R. C. THOMPSON, C. HASEMAN.

THE UNIVERSITY ORGANIZATION

A. College of Arts and Science.
School of Education and Nevada State Normal School.

B. College of Engineering.
(a) Mackay School of Mines.
(b) School of Mechanical Engineering.
(c) School of Electrical Engineering.
(d) School of Civil Engineering.

C. College of Agriculture.
(a) School of Agriculture.
(b) School of Home Economics.

D. Affiliated Organizations.
(a) Agricultural Experiment Station.
(b) Smith-Lever Extension in Agriculture and Home Economics.
(c) State Mining Laboratory.
(d) State Hygienic Laboratory.
(e) Pure Food and Drugs Control and Weights and Measures.
(f) State Veterinary Control Service.
(g) United States Bureau of Mines Experiment Station.

E. Summer Session.

THE HISTORY AND DEVELOPMENT OF THE UNIVERSITY

1862—*The Morrill Land Grant.* By the terms of this grant the State of Nevada received a donation of 90,000 acres of land, in 1866, "for the endowment, support and maintenance of at least one college whose leading object shall be, without excluding other scientific and classical studies and including military tactics, to teach such branches of learning as are related to agriculture and the mechanic arts." The land in this State is known as the "90,000-Acre Grant," and the sales of this land have amounted to $107,763.84, upon which the United States Government requires an annual interest of 5%.

1864—*Foundation.* The Constitution of the State declares that the "Legislature shall encourage, by all suitable means, the promotion of intellectual, literary, scientific, mining, mechanical, agricultural, and moral improvement," and shall provide for "the establishment of a State University which shall embrace departments for agriculture, mechanic arts and mining." A further provision in the Constitution relates to the Normal School.

1866—By a special Act of Congress there were seventy-two sections in the State set aside for the purposes of endowment of the universities in the State. The fund from the sale of this land now amounts to $46,838.42.

1873—*Location.* The University was first located at Elko by an Act of the Legislature approved March 7, 1873. By an Act of the Legislature approved March 7, 1885, it was moved to Reno, and formally reopened March 31, 1886.

1887—The enrollment of the students in 1887–1888 was 28. The faculty consisted of 2 members, President Brown and Professor Hannah K. Clapp. During the first year 2 additional members were added, and by the end of the second year the faculty numbered 7.

During the first year five departments were recognized, although not fully organized. They were the Liberal Arts, the Mining, the Normal, the Agricultural, and the Business Schools.

1888—The School of Mines was organized, with Robert D. Jackson, Ph.B., as Director. The Normal School was organized, with Miss Kate N. T. Tupper as the head. The Military Department was organized, with Lieutenant Arthur C. Ducat, Jr., as commandant.

1889—The Agricultural Experiment Station was organized, President Brown acting as Director. By an Act of Congress passed March 2, 1887, which was accepted by this State, there was established, in connection with the colleges founded upon the Congressional Act of 1862, agricultural experiment stations, "to aid in the acquiring and diffusion among the people of the United States of useful and practical information on subjects connected with agriculture, and to promote scientific investigation and experiment respecting the principles and applications of agricultural science." The Hatch Act of 1887 appropriated $15,000 annually for this support.

1889—Administration of President Jones began.

1890—The second Morrill Act of Congress made further appropriations for endowments of institutions established under the Act of 1862. Under this endowment the University is now receiving $25,000 per year.

1891—The first graduates from the School of Liberal Arts.

1892—The first graduates from the Schools of Mines and Agriculture.

1894—Administration of President Jones ended.
Administration of President Stubbs began.

1895—The State Mining Laboratory was organized.

1899—Washoe County presented to the University a farm of sixty acres, to be used in connection with the Agricultural Experiment Station. The cost of the farm was $12,000.

1904—The tridecennial celebration of the establishment of the University was held.

1906—Congress, under an Act dated March 16, 1906, provided for an additional appropriation for the support of the Agricultural Experiment Station, limiting the money's use to the necessary expenses of original research and experimental work in agriculture. This grant now amounts to $15,000 per year.

1907—*The Nelson Fund*—An Act of Congress of March 4, 1907, carried with it an appropriation for the further support of the universities established under the Morrill Act of 1862. The present appropriation under this fund amounts to $25,000 per year.

1907—Mrs. John W. Mackay and Mr. Clarence H. Mackay began a donation to the University which founded the Mackay School of Mines, the Mackay Athletic Field, and the Mackay Training Quarters, and contributed $25,000 toward the beautifying of the Campus. They also presented a statute in bronze by Gutzon Borglum of John W. Mackay, one of the pioneers of the Comstock.

1911—Twenty-fifth anniversary of the establishment of the University at Reno, celebrated by Silver Jubilee and home-coming of former students and graduates.

1912—Mrs. John W. Mackay and Mr. Clarence H. Mackay presented to the University Board of Regents $150,000 as an endowment for the Mackay School of Mines.

1914—Administration of President Stubbs closed with his death on May 27.

By an Act of Congress known as the "Smith-Lever Act," there was established a fund for the purpose of agricultural extension. The fund amounts to $10,000 per year, and is increased each year until it amounts in 1923 to $15,699.

1914—September 14, administration of President Hendrick began.

1917—May 1, administration of President Hendrick ended.

1917—September 1, administration of President Clark began.

1918—The Smith-Hughes Act passed Congress early in 1917, for the promotion of vocational education. This Act provides for cooperation with the States in the promotion of such education as agriculture, home economics, trades, and industries, and in preparation of teachers of vocational subjects. Under the Nevada State Board of Vocational Education, the University of Nevada does the Nevada vocational-teacher training in accord with this Smith-Hughes Act, being granted special federal and state funds for this purpose. This work began at the University in January, 1918.

1918—First training detachment of 103 soldier students from June 15 to August 13; second training detachment of 103 soldier students from August 15 to October 12; Collegiate Section A—79 soldier students from October 1 to December 21; Vocational Section B—212 soldier students from October 15 to December 21.

1920—The School of Education was organized, with John William Hall as Dean.

1920—A Federal Mining Experiment Station was assigned to the University July 8, 1920. This station is to do experimenting for the United States in rare and precious metals.

1920—A Federal Air Radio Station was established on the University Campus in September, 1920. The operant station and the government wireless laboratory are both housed in the smaller of the two Barracks buildings.

COLLEGES, SCHOOLS, AND PUBLIC SERVICE DEPARTMENTS

THE COLLEGE OF ARTS AND SCIENCE

The College of Arts and Science offers four-year courses leading to the degree of Bachelor of Arts. (Students who have majored in Mathematics and Science may, upon application to the faculty, receive the degree of Bachelor of Science if they prefer.)

Work in the following subjects is offered in the College of Arts and Science: Art, Assaying, Biology, Business Administration, Chemistry, Classics, Economics, Education, English, Geology, German Language and Literature, History, Mathematics, Mineralogy, Philosophy, Physical Education, Physics, Political Science, Psychology, Romanic Languages and Literatures, and Sociology.

SCHOOL OF EDUCATION AND STATE NORMAL SCHOOL

The training of teachers at the University of Nevada embraces the following courses and divisions:

1. The School of Education (included as a division of the College of Arts and Science, but with its own Dean and its direct affiliations with the Colleges of Agriculture and Engineering), which offers to prospective secondary-school teachers a liberal and professional course of study of four years leading to the bachelor's degree and a teacher's high-school diploma, giving title to a teacher's high-school first-grade certificate, and also a special training course for future school principals and superintendents.

2. The State Normal School, which offers to fully accredited students of college grade a two-year professional training leading to a teacher's elementary diploma giving title to a first-grade elementary certificate. Students who cannot immediately proceed after the first year to the second year of this course are granted credentials giving title to a second-grade elementary certificate.

3. The Summer Session, organized more particularly for the benefit of present and prospective teachers and conducted for six weeks in June and July, with a wide variety of liberal and professional courses which carry both university and state-certificate credit.

THE COLLEGE OF ENGINEERING

The Mackay School of Mines offers a four-year course in mining, leading to the degree of Bachelor of Science in Mining, which prepares students to become mining engineers, metallurgists, and mining geologists; a one-year graduate course leading to the degree of Master of Science in Mining; and a four-week course in elementary mining subjects designed to assist prospectors. The school is provided with the equipment necessary to teach efficiently the courses in mining, metallurgy, and geology, which form the basis of a mining education. The professional degree of Mining Engineer is conferred upon graduates who have held responsible mining positions for at least three years and who present satisfactory theses.

The Schools of Mechanical, of Electrical, and of Civil Engineering each offer four-year courses of instruction leading, respectively, to the degrees of Bachelor of Science in Mechanical, in Electrical, or in Civil Engineering. The shops are well equipped, and the laboratories offer most excellent facilities for practical work.

THE COLLEGE OF AGRICULTURE

The College of Agriculture curriculum leads to the degree of Bachelor of Science in Agriculture. This is a four-year course including, in addition to the prescribed agricultural subjects, such subjects in the College of Arts and Science as are necessary to establish in the student's mind a thorough knowledge of agricultural problems. There are also short courses in butter-making, cheese-making, and city milk supply, varying with the requests of the majority of applicants.

The degree course in the School of Home Economics gives to young women of the University a comprehensive understanding of the household sciences, including both domestic science and domestic arts. The Short Courses offer study in the following subjects: Dressmaking for beginners and experienced workers. Millinery, working on new and old material. Designing and making children's clothes from old materials. Food, practical lessons on food for the family, its composition, use, and amount required.

Through the College of Agriculture the University provides a bureau of general information and welfare from which any one in the State or any one desiring to settle within its borders may receive full information concerning

the opportunities in the State for farming, stock-raising, etc., together with a statement of farm practices which have been successful.

AGRICULTURAL EXPERIMENT STATION

The Agricultural Experiment Station receives its support from the Hatch Fund (Federal, 1887) and from the Adams Fund (1906). These funds are restricted by law to the scientific investigation of agricultural problems, including the problems arising from soil conditions, the duty of water, animal diseases, poisonous range plants, economical feeding of live stock, insect pests, plant diseases, and other problems of agricultural practice.

AGRICULTURAL EXTENSION DIVISION

Agricultural Extension, provided for by the Smith-Lever Extension Bill, is under the immediate charge of a director. Its specific purpose is "the giving of instruction and practical demonstrations in agriculture and home economics to persons not attending or resident in said colleges in the several communities, and imparting to such persons information on said subjects through field demonstrations, publications, and otherwise." Further information concerning the work under this division, staff, etc., is given in this catalogue.

LABORATORIES AND SCHOOLS

The Legislature of the State has placed the direction of several of the public service departments under the President and Board of Regents of the University.

STATE MINING LABORATORY

The State Mining Laboratory, which was organized under an Act of the Legislature approved May 16, 1895, provides a means whereby citizens of Nevada may have ores and minerals taken from within the boundaries of the State analyzed free of charge.

STATE HYGIENIC LABORATORY

The State Hygienic Laboratory was organized in 1909 to provide facilities for the diagnosis of infectious human diseases and to provide for the control of such diseases. The services of the laboratory are available to physicians, health officers, and health boards. The laboratory is located at the corner of Fifth and Sierra Streets, Reno.

FOOD AND DRUGS CONTROL, AND WEIGHTS AND MEASURES

The Food and Drugs Control, and Weights and Measures Departments, established under Act of the 1909 Legislature, provide that all rules, regulations, definitions, and decisions proclaimed by the Secretary of Agriculture for the enforcement of the national law, shall be adopted by this department in the enforcement of the state law. The laboratory is located at the corner of Fifth and Sierra Streets, Reno.

STATE VETERINARY CONTROL SERVICE

The State Veterinary Control Service was organized in 1915, to provide facilities for the diagnosis of communicable diseases of domesticated animals, for research into the nature, cause, and methods of controlling same, including the preparation and distribution of special sera and vaccines which cannot be purchased on the open market.

SUMMER SESSION

The Summer Session of the University of Nevada opens as far as possible the full resources and facilities of the institution to teachers, to students of the University, and to any men and women who want such opportunities for liberal study as are here offered.

The Summer Session of 1921 is scheduled from June 20 to July 29, inclusive.

ADMINISTRATION

GOVERNMENT

The control of the University is vested by law in a Board of Regents consisting of five members elected by the people. Under the law in force until 1918, three Regents were elected each biennium, for two- or for four-year terms.

By an Act of the Legislature, approved March 24, 1917, the tenure of office for University Regents was changed to ten years. Transition to this new system began with the fall election of 1918, when three Regents were elected for terms of ten, eight, and six years, respectively. In the general election of 1920 two more Regents were elected for terms of ten and two years, respectively. Hereafter there will be elected at each general election, one Regent, who shall hold office for ten years.

The administration of the University is vested by the Board of Regents in the President of the University, the University Faculty, the Faculties of the several Colleges, the Deans and Directors of the Colleges and Schools and of the Public Service Division.

THE PRESIDENT

The President of the University is the executive head of the University. It is his duty to secure efficiency in all the departments and orderly and economical administration and healthful development in all the affairs of the University. He is ex officio a member of each committee.

THE VICE-PRESIDENT

In the absence of the President or in case of his inability to act, the Vice-President shall perform his functions.

DEANS

The Dean is the administrative officer of his college or school. Any matters in which the faculty of the college can legislate are within the administrative functions of the Dean. He is directly responsible to the President of the University.

DEAN OF WOMEN

The academic and social welfare of the women students is under the particular supervision of a Dean of Women. It

is especially desirable that young women who are away from their home influences should have some one to whom they may look for advice in matters affecting their welfare as women and as students. The Dean of Women has jurisdiction over all social matters in which women students are concerned. For women students whose homes are out of the city and who are not accommodated in Manzanita Hall, the Dean of Women has a list of suitable homes accommodating women exclusively and in which a parlor is provided for the reception of visitors. Women students are required to report to the Dean of Women in order that they may register their addresses.

The Dean of Women invites correspondence with parents and guardians, and gladly cooperates with them regarding the welfare of students.

THE TREASURER AND COMPTROLLER

The Treasurer and Comptroller is authorized to receive all moneys arising from gifts or bounties in any form to the University or for its benefit; all fees from students or others; proceeds from all sales of farm products or any articles of personal property of whatever nature or kind; fees for services rendered in any manner, and funds from any sources whatsoever other than in cases by law required to be paid to the State Treasurer. He keeps the accounts of the moneys in his custody in such separate funds as are necessary for proper and systematic accounting.

THE UNIVERSITY FACULTY

The President, Vice-President, Deans, Librarian, Registrar, and all persons who give instruction, with the rank of instructor or above, in any of the regular college departments of the University, constitute the University Faculty.[1] Subject always to the approval of the President and the Board of Regents, the University Faculty has legislative jurisdiction in all matters of government, discipline and educational policy not delegated by it to the separate faculties, and has the right of review of all actions of the several colleges which relate to the educational welfare of the University as a whole.

[1]Exceptions to the above rule:
1. Any member of the Faculty not teaching during any given college year shall not have the privilege of voting in Faculty meetings during that year.
2. New appointees shall not have the right to vote until one year after appointment, except those who may be appointed to the rank of full professor, or as the head or acting head of a department.

The following are the standing committees of the University Faculty:

1. Admission and Advanced Standing.
2. Registration and Scholarship.
3. Schedules.
4. Athletics.
5. Library.
6. Scholarships and Prizes.
7. Student Affairs.
8. High-School Relationship.

MEETINGS

The University Faculty meets at the call of the President.

COLLEGE FACULTIES

The faculty of each college directs the educational and internal life of the college, makes rules and regulations peculiar to that college; formulates the course of study, the entrance and graduation requirements, which, when approved by the University Faculty, the President and the Board of Regents, become the statutes in force in that college. It shall not have the authority to take away from a student any university privilege nor shall it trench upon the executive duties of the Deans. All matters which may require the action of the University Faculty shall be presented to that body by the Dean. The faculty of each college shall organize and carry out its functions as it deems wise. The Dean shall be chairman of the faculty and ex officio a member of all committees. The action of each faculty is subject to the approval of the President and of the Board of Regents. A copy of the minutes must be filed with the President immediately following each meeting.

DEPARTMENTS

The department is the educational unit in the University. The head of the department is responsible directly to the President for the efficiency and educational effectiveness of the department. For general administrative work the head of the department is in that college in which his major work appears.

The heads of departments make all department reports, prepare estimates for the expenses of their departments, and are responsible for the distribution and expenditure of the funds assigned to them.

ADVANTAGES AND EQUIPMENT

Reno, the seat of the University, is a substantially built and steadily growing city, numbering in 1921, fifteen thousand inhabitants. It is located in the valley of the beautiful Truckee River at the junction of three railroads, the Southern Pacific, a transcontinental line, the Virginia and Truckee Railway, a short line with Reno and Virginia City as terminals, and the Western Pacific Railway, another trunk-line between the East and the West.

The scenery is magnificent. The University Campus, at the northern edge of the city of Reno, is a low plateau. On the west are the Sierra Nevada Mountains, pine clad, crowned with snow the year round, and towering to majestic heights, the white summit of Mount Rose, queen of the range, being over two miles above sea-level. On the east are the lower gray-brown Virginia Mountains, endlessly restful with their subdued lights and their velvet shadows. These two ranges unite in low hills to the north, while to the south a green and fertile valley, crossed by the silver thread of the Truckee, stretches to the horizon mountains.

The air is clear and invigorating. The temperature is equable. Over three hundred days of the year the sun shines from a usually cloudless sky of wondrous blue. The nights are always cool and refreshing. There are few, if any, more healthful places in America.

The grade- and high-school system of the city has deserved repute throughout the Pacific States. The Reno Young Men's and Young Women's Christian Associations have well-equipped quarters which are centers of athletic and social activities. Music and the drama are encouraged by strong local organizations. University students are welcomed by all of the churches of Reno.

BUILDINGS AND GROUNDS

The University Campus has an area of sixty acres and is beautifully located on an eminence overlooking the city. The academic buildings center upon a turfed quadrangle; broad walks and drives traverse the grounds. The natural advantages of the site lend well to landscape embellishment, and much has been done toward beautifying the grounds.

The following brief descriptions will give some idea of the principal buildings and the purposes for which they are used:

AGRICULTURAL BUILDING—The Agricultural Building is a three-story structure of brick, with stone facings and trimmings, situated directly east of the University lake between the Chemistry Building and the Library. The first floor includes the administration offices, two classrooms, a large lecture-room, the millinery laboratory, the library, and the museum. The second floor is devoted to the School of Home Economics and the Department of Biology, and includes the sewing laboratory, the cooking laboratory, the model kitchen and dining-room, and the biological laboratories. The basement includes laboratories for agricultural engineering, animal husbandry, farm crops, soil physics, and biology. (1918*)

BARRACKS—The Barracks Building is a two-story frame building located directly north of Lincoln Hall. The first floor includes a kitchen, a mess hall, a dormitory and five offices and storerooms. The second floor is wholly a dormitory floor. This building was erected in September, 1918, for the use of the Vocational Section of the Students' Army Training Corps. (1918)

Since January, 1919, this building has been furnishing overflow quarters for various University divisions and departments.

The small building north of the Barracks, used as a barracks lavatory until January, 1919, was remodeled as quarters for the Federal Aerial Station. (1920)

CHEMISTRY BUILDING—The Chemistry Building is a two-story gray stone building standing on the west side of the Quadrangle. On the first floor are found the inorganic, qualitative, and quantitative laboratories, a balance-room, stockroom, and the professor's private laboratory, which is equipped for electrochemical work. The chemical laboratory of the Agricultural Experiment Station occupies the south half of the second floor. Adjoining this laboratory is an office for the research chemist. The second floor also contains a lecture-room, two stockrooms, an office, and a department library. The basement is divided into two compartments, one being used as a furnace- and combustion-room, the other as an acid-room. All the laboratories are heated from the central heating plant. (1902)

*Figures given in parentheses at the end of paragraph describing the building state the year in which the respective buildings were completed.

DAIRY BUILDING—This is a two-story brick and stone building situated on the east side of the Campus directly east of the Mechanical Building. The entire second floor is occupied by the Department of Agricultural Extension. The basement floor contains the creamery, in which the milk from the college herd is manufactured into butter and cheese. On this floor is also the dairy laboratory in which instruction is given in testing dairy products, the operation of separators, and the making of butter and cheese. (1913)

DINING-HALL—The University Dining-Hall is a one-story brick building on the west side of the Campus. It is a conveniently equipped dining-hall for the accommodation of one hundred and fifty students. (1905)

EDUCATION BUILDING—A two-story brick building, with stone facings and columns, situated north of the Agricultural Building. The first floor has an auditorium seating 350, with stage and dressing-room, the offices and three classrooms of the School of Education. The second floor is occupied by the Departments of Art, Business Administration and Psychology and has the music-room and three other classrooms of Education. (1920)

ELECTRICAL BUILDING — The Electrical Building is situated just north of the Mechanical Building. This is a handsome structure of brick, with stone facings and trimmings. The spacious laboratories are completely equipped with the most modern machinery and appliances for the study of electrical, mechanical, and civil engineering. On the first floor are located the lecture-rooms and the electrical, gas, and steam-engineering laboratories. The second floor contains the library, drafting-rooms, fuel-testing laboratory, and civil-engineering department. (1912)

GREENHOUSE—A working greenhouse is on the east side of the Campus. It is used by the Departments of Botany and Horticulture, and also for the study of plant industry. (1909)

GYMNASIUM—The Gymnasium is a brick building one hundred and twenty feet long and sixty feet wide. The assembly hall is one hundred feet by sixty feet, and is used for general University purposes. The building is specially devoted to the use of the young women's classes in Physical Education, and is equipped with shower baths, dressing-rooms, and a committee-room for the use of that department. The office of the Athletic Director and Coach is in this building. (1897)

HATCH STATION—Hatch Station is set aside almost wholly for the use of the Experiment Station. The first floor is occupied by the Department of Veterinary Science and State Veterinary Control Service. The second floor is occupied by the office of the Station Director and by the Departments of Entomology and Range Management. (1891; annex 1909)

HEATING PLANT—A central heating plant supplies most of the buildings on the Campus. It consists of two large boilers, pumps, engines, motors, etc., and is operated in connection with the mechanical-engineering laboratories. (1908)

HOSPITAL—The University Hospital is situated between the Gymnasium and Lincoln Hall. This is a one-story building and contains six rooms and a basement. There are four wards—two upon the west for men and two upon the east for women. There is a convenient kitchen where the food for the patients is prepared. A matron is in charge of the hospital. The physician engaged by the Students' Hospital Association of the University will have office hours in this building. (1902)

LIBRARY—The Library Building is situated on the west side of the Quadrangle; it is constructed of brick and stone in conformity with the architecture of the other buildings. (1913)

LINCOLN HALL—Lincoln Hall, the men's dormitory, is a modern three-story brick building, built after the plan of such halls in use in the larger eastern colleges, and affords a comfortable home for ninety men. (1896)

MACKAY SCHOOL OF MINES—The Mackay School of Mines, the gift of Mrs. John W. Mackay and Mr. Clarence H. Mackay, houses the Departments of Mining, Metallurgy, Geology, and Mineralogy. It is a dignified and spacious structure in the colonial style. The main portion of the building has two stories and there are two single-story wings in the rear, between which a library and a court are situated. Upon the first floor are the mining lecture-room, drafting-room, and office, the museum, the mining library, the mining and metallurgical laboratory, the assay laboratory, the chemical laboratory, the weighing-room, and the parting-room. Upon the second floor are the geological lecture-room, drafting-room, and office; the petrographic laboratory, the mineralogical laboratory, the research laboratory, and the office of the Department of Metallurgy. (1908)

MANZANITA HALL—Manzanita Hall, which is the women's hall of residence, is a brick building electrically lighted and steam heated; it provides accommodations for about seventy-five women. There are single rooms, double rooms, two-room suites for two women, and three-room suites for four women. All of the rooms have outside exposure. There is a large sleeping-porch on the side of the building overlooking the lake, and those who desire to sleep out of doors will do well to state this in their applications that they may be assigned rooms conveniently located for this purpose. A covered passageway connects the hall with the dining-hall. (1896; annex 1909)

MECHANICAL BUILDING—The Mechanical Building is on the east side of the Quadrangle; the ground floor contains the machine shop, the blacksmith shop, and the boiler-room. The machine shop is furnished with screw-cutting lathes, a polishing lathe, a shaper, a universal milling machine, a universal cutter grinder, bench vises, wet and dry emery wheels, and a toolroom equipped with small machine tools and experimental apparatus for the use of shop students. The blacksmith shop has forges and the necessary tools. The second floor accommodates the wood-working shop. This shop is fitted up with a power jig-saw, a band-saw, a universal wood-working machine, wood lathes, and a universal trimmer. There are twenty-four benches and an equal number of lockers. Each locker contains a set of hand tools. (1897)

MINES EXPERIMENTING BUILDING—This building has been erected north of the east wing of the School of Mines Building. It is a two-story and basement brick building, housing the storage-rooms, laboratories, library, and offices of the Federal Rare and Precious Metals Mining Experiment Station. (1921)

MORRILL HALL—Morrill Hall is a three-story brick building with a large basement. On the first floor are the offices of the President, the Comptroller, and the Registrar. The Departments of Mathematics, Political Science, and the Classics occupy the second floor. The third floor is at present unoccupied. The office of the Superintendent of Buildings and Grounds is in the basement of this building. (1886)

PHYSICS BUILDING—The Physics Building, which is in the main devoted to the Department of Physics, is a substantial two-story brick building. On the first floor are the balance-room, the darkrooms, the storage-battery room, the shop, and

the laboratories. The second floor contains the lecture-room, with a seating capacity of eighty persons, the apparatus-rooms, and the offices. (1889; annex 1905)

PRESIDENT'S HOUSE—The President's house is situated on the southeast corner of the Campus. (1900)

STEWART HALL—Stewart Hall is a three-story brick building with a basement. The basement is used as an armory and contains also the offices of the Military Department. The Departments of History and Modern Languages occupy the first floor. The second floor is occupied by the Departments of Economics, English, and Philosophy. The third floor is at present unoccupied. (1890)

THE MACKAY FIELD AND TRAINING QUARTERS—The natural amphitheater on the Campus, which had been leased to the University for a number of years by former Regent Evans, was purchased for the University by Mr. Clarence H. Mackay and provision made for its improvement. In order to make room for other branches of athletics, such as basket-ball and tennis, the Nevada Legislature of 1909 made provision for the purchase of additional land to the south of the old field, so that now about ten acres of land is being used for athletic purposes. The improvements donated by Mr. Mackay include a Training Quarters Building, situated on the east side of the field (1909). This building has showers, baths, locker- and dressing-rooms, a committee-room, and a lounging-room. Directly opposite to this on the west bank are the bleachers and colonnade. The natural slope of the bank has been utilized so that the field closely resembles the stadium used at the ancient Olympic games. There are seventeen tiers of concrete, with a colonnade for a covered grandstand in the rear. The seating capacity is about two thousand.

Situated between these structures is a full-sized American football field, surrounded by a quarter-mile track which has an arm extended to make provision for the 220-yard events.

LIBRARIES

GENERAL LIBRARY

The University Library contains 35,500 bound volumes and several thousand pamphlets. The books have been selected with particular reference to the needs of the several departments of study; but, besides the works needed by special departments, there are many general works and reference volumes of various kinds. The books are catalogued according to the Dewey Decimal Classification System.

The reading-room is supplied with daily and weekly newspapers and with many of the best periodicals. The list includes subscriptions to about two hundred of the leading cultural, scientific, and technical magazines and journals.

The Library is open from 7 : 50 a. m. to 4 : 50 p. m. every day except Sundays and holidays. During the Summer Session and vacations special hours are announced.

To the general public is extended the use of the Library under such restrictions of the time for which a book may be withdrawn as are necessary to prevent interference with the work of the students. Borrowers residing outside of Reno are asked to pay the necessary postage or expressage on the books loaned to them.

AGRICULTURAL COLLEGE LIBRARY

The Agricultural College Library contains all of the live-stock record-books of the Department of Animal Husbandry and Dairying, as well as a large collection of agricultural papers, magazines and other current literature. This library also contains the large agricultural relief map of Nevada. It is located in Room 103, Agricultural Building, and is used chiefly by members of the faculty and students in Agriculture and Home Economics. The use of this library is extended to the general public.

AGRICULTURAL EXPERIMENT STATION LIBRARY

The Agricultural Experiment Station Library, containing about twenty-eight hundred bound volumes and a large number of pamphlets, has been placed in the main library building. The volumes and pamphlets may be classified broadly as follows: Bulletins and Reports of the Experiment Stations of the various States, publications of the United States Department of Agriculture, and general works on agriculture and the related sciences. Many current agricultural periodicals are on the tables in the reading-room. The library is catalogued and classified, and suited for ready reference. It is open daily, and, while intended primarily for the use of the Station Staff, it is also accessible to the public.

MINING LIBRARY

Reference books, text-books, recent technical journals, and other works pertaining to geology, mineralogy, mining, and metallurgy are concentrated in one large study-room which is conveniently located upon the ground floor of the Mackay School of Mines. This library is open at all times during the sessions.

MINING EXPERIMENT STATION LIBRARY

The library of the U. S. Bureau of Mines Station at the University consists of between 2,000 and 3,000 volumes and pamphlets. Thirty-five current periodicals are received. A complete set of the publications of the U. S. Bureau of Mines is maintained.

OTHER DEPARTMENTAL LIBRARIES

These libraries are maintained primarily for the use of students taking work in the respective departments. They cover animal husbandry, biology, chemistry, education, home economics, physics, and veterinary science.

TRAVELING LIBRARIES

The University has fifteen traveling libraries for the use of Nevadans outside of Reno. Numbers 1 and 2 have twenty-five books each; the others have fifty books apiece. So far as practicable they are lent to schools or communities that will pay transportation charges. The "travelers" may remain three months or longer in a place. Then they return to the University Library, are checked up, and made ready to lend again. The University will continue this in a modest way until the work can be done better by others. The University requires a deposit of $5 on each "traveler."

CITY AND STATE LIBRARIES

Besides the University libraries, members of the University have the facilities of the Reno Free Library, and of the State Library, which is located at Carson City. The State Library has a printed catalogue of its miscellaneous department, a copy of which is furnished to borrowers.

LABORATORIES

ARTS AND SCIENCE LABORATORIES

Biological—The Biological Department occupies part of the basement, and the north half of the second floor of the Agricultural Building. There are five laboratories consisting of the following: (1) The main laboratory, used for all the elementary courses, which will accommodate thirty-five students; (2) The advanced zoological laboratory; (3) The advanced botanical laboratory; (4) The plant-breeding and horticultural laboratory; and (5) The anatomy laboratory. The first three are located on the second floor, and the last two are in the basement. In addition to these laboratories, there are small rooms for storage, an iceroom, a darkroom, a fireproof incubator-room, and a small museum and exhibi-

tion-room. In the basement there are arrangements for the keeping of running aquaria and supplies of living animals. In the central part of each laboratory are stationary tables provided with gas, water, and sink connections, lockers and drawers—all adapted for the setting up of apparatus in physiological and other experimental work. Tables grouped in front of the windows are arranged for microscopic work. Each individual table is provided with a microscope, locker, and combination-lock drawers for the keeping of individual supplies and apparatus. Wall cabinets, reagent cases, and lockers are used for storing general equipment and supplies. The department possesses fifty-five compound microscopes, ten of which are provided with oil-immersion lenses and all the accessories needed for the most delicate and precise microscopical work. Among the larger pieces of apparatus are an electrical incubator, a Freas electric oven, paraffine water-bath, dry-air and steam sterilizers, autoclave, centrifuges, and a full projection apparatus for microscopic lantern-slide and opaque demonstrations. Four complete sets of physiological apparatus will accommodate eight students in experimental animal physiology. Smaller apparatus and a greenhouse make possible a limited amount of work in plant physiology.

Chemical—The organic chemistry laboratory will accommodate ten students and is fitted with gas and water and fume closets. The laboratory for qualitative analysis will accommodate seventy-five students, each one being provided with a locker and drawer for keeping apparatus. The laboratory is completely fitted with water, gas, and fume closets. The quantitative analysis laboratory will accommodate thirty-six students. It is equipped with gas, water, fume closets, steam closets, steam evaporators, drying ovens, etc. In connection with this is a balance-room containing six sets of balances, and a special laboratory for the analysis of water and for such determinations as cannot be made in the main laboratory.

Geological and Mineralogical—The Departments of Geology and Mineralogy are provided with reference collections illustrating the minerals, rocks, and fossils, and with class collections for study and determination. The Mineralogical Laboratory is arranged, for the present, for the accommodation of single sections of forty students. There is, in addition, a laboratory fitted up for microscopic work, and equipped with petrographical microscopes and the necessary accessories. It has also a set of mineral thin sections cut in

definite direction, and a collection of rock sections with many representatives of each of the chief types, together with many sections illustrating special types. A separate grinding-room is provided with apparatus for making thin sections of rocks and minerals. Blowpipe and other chemical work is also provided for. A lantern with a growing collection of slides furnishes additional illustrative material for lecture work.

Physical—The work of the Physical Laboratory is fully adapted to the needs of the students of arts, science, medicine, education, or engineering. The General Laboratory contains, besides a shop, a Freshman and Sophomore laboratory for work in sound, mechanics, heat, light, magnetism, and electricity. The equipment of these laboratories consists of modern apparatus of approved design and substantial construction, suited for accurate physical measurements. The apparatus for the more important experiments has been duplicated, so that at present individual work can be insisted upon in the laboratory. Aside from the main laboratories, there are a weighing-room, containing four Becker balances mounted on piers; a darkroom provided with standard photometric apparatus; and a battery-room equipped with sixty lead storage batteries and fifteen Edison storage batteries. The department shop contains a motor-driven lathe, with taper attachment, change gears for cutting metric threads, and all other accessories, hand tools for wood and metal work, including metric taps and dies, a small circular and linear dividing engine, and a direct-current dynamo with two armatures, furnishing current at various voltages. All of the laboratories are supplied with water, gas, and electricity.

ENGINEERING LABORATORIES

Civil Engineering—A first-class Riehlé testing machine, 1909 model, 200,000 pounds capacity, operated by an electric motor, a complete cement-testing outfit, and a good assortment of surveying instruments comprise the laboratory equipment of this department. All of these features, as well as a drafting-room, are located in the Electrical Building. The large testing machine is used for testing and illustrating the principles governing the strength and elasticity of materials used in engineering construction.

Electrical—The equipment of the Electrical Engineering Laboratory is one of the best in the country. Machines of practically all standard types are available for study

and operation. In addition to this apparatus there have been provided the necessary controlling devices and instruments for handling the wide range of voltages and currents used in the experimental tests. The equipment is especially designed for study of the electrical engineering problems which occur in commercial work, and consists of direct- and alternating-current generators, motors and converters, high and low potential transformers, a Tirrell regulator, synchronoscopes, power-factor meter, rheostats, voltmeters, ammeters, and watt-meters, multipliers, and numerous other smaller pieces of apparatus.

Mechanical—The equipment of the Mechanical Laboratory for steam and gas engineering consists largely of typical engines, so arranged as to be run independently of one another, each provided with its individual variable load and complete apparatus for testing.

The principal units for steam testing consist of the following:

A 100-hp. Babcock and Wilcox boiler, oil fired and provided with complete boiler-room accessories.

A 12x24 Alliss-Corliss engine, belted to a 65-kw. 200-volt alternator.

A 10x10 Buffalo Forge Co. high-speed automatic engine equipped with an Alden dynamometer.

A 5x5 vertical slide-valve engine.

A 7-kw. General Electric turbo-generator outfit.

A 6-hp. De Laval turbine geared to a centrifugal pump.

Two headlight turbo-generator outfits arranged for comparative tests.

A Wheeler surface condenser, arranged to measure the steam consumption of any unit.

The principal units for gas-engine testing are the following:

A 30-hp. three-cylinder vertical Standard gas engine belted to a 17-kw. direct-current generator.

A 10-hp. Fairbanks-Morse oil engine belted to a 10-kw. direct-current generator.

A 6-hp. Fairbanks-Morse gas engine provided with friction brake.

A 6-hp. Semi-Diesel Swedish oil engine.

A 40-hp. Willys-Knight automobile engine.

A 4-hp. horizontal gas engine belted to a centrifugal pump.

The laboratory contains instruments for measuring and

recording pressure, temperature and flow of stream, thermometers, pyrometers, steam and gas calorimeters, and steam- and gas-engine indicators, with suitable apparatus for their calibration. The laboratory is equipped to make tests on lubricating oils and for fractional distillation of crude oils.

MINING SCHOOL LABORATORIES

Assay—Preparation of crucible charges and all furnace work is done in the Assay Laboratory in the Mackay Building. This laboratory is fully equipped with six Thompson pulp scales, three double-muffle soft-coal furnaces, a large oil fusion furnace, four small oil-fired muffles, two coke muffle furnaces, and one coke fusion furnace. Crude oil and distillate are used for the oil furnaces, compressed air being used to spray the oil. The laboratory will accommodate twenty students. A Case combination gas and oil three-muffle furnace has recently been added to this laboratory by the State Mining Laboratory.

Connected with both the Chemical Laboratory and the parting-room is the weighing-room. Substantial piers carry the balances. Both chemical and button balances for assaying work are placed in this room. The equipment consists of two analytical balances and eight button balances. Different makes of balances are in use, including the Becker, the Ainsworth, the Keller, the Oertling, and the Staudinger. An Ainsworth chemical balance and a Thompson multiple-rider button balance belonging to the State Ore Sampler are also installed in this laboratory.

The cleaning of beads, parting, and annealing are provided for in a parting-room convenient to the weighing-room and the Assay Laboratory. The room is equipped with cement tables, a hood, and a set of bullion rolls.

Chemical—The Chemical Laboratory of the School of Mines is fully equipped with the usual desks, hoods, hot-plates, and air-baths. Each desk is provided with gas, electricity, and compressed air. Steam connections for still and drying-coils are provided. Electric air-baths and drying pans are provided for overnight work. A small electric-driven five-jar Abbe mill is used for the fine grinding tests. Four four-gallon slime agitators, driven by a small electric motor, are used for slime tests. A direct connected electric-driven exhaust fan draws the air from the hood in the parting-room and from this laboratory. A complete elec-

trolytic outfit for lead, copper, and other determinations has been installed. This laboratory will accommodate sixteen students.

Metallurgical—The Metallurgical Laboratory equipment includes the following machines: a three-stamp battery and feeder, amalgamating plates, a four-foot Union concentrator, a Wilfley concentrating table, a two-compartment jig, classifiers and sizing cones, a 4x8 Sturtevant ore crusher, a pair of 10x12 crushing rolls, a 2x6 Columbian shaking screen, a one-ton cyanide plant, a 3x8 roasting furnace, an 18-inch amalgamating pan, a 150-pound tube mill, a small Pachuca agitator, a filter press and montejus, an automatic sampler, a crusher, a sample grinder, and a miniature concentrating testing plant consisting of ore feeder, hydraulic classifier, Wilfley table, two-compartment jig, and settling tanks, all mounted on a single table, a laboratory-size Deister slimer, and Janney and Callow flotation machines.

Power for the laboratory is supplied by two induction motors, one a 15-hp. and one a 5-hp. All the machines are so arranged that they can work independently or in conjunction with one another. The following processes may be conducted on a working scale: The dry crushing and automatic sampling of an ore; the concentration of sands and slimes after crushing an ore either in stamp battery or rolls; the wet crushing, plate amalgamation, and concentration of a gold ore; the cyanide treatment of a gold or a silver ore, and the pan amalgamation of a silver ore.

Metallographic—The Metallographic Laboratory equipment includes a Sauveur & Boylston polishing machine, apparatus for hand polishing, a large Leitz metallurgical microscope with photomicrographic camera, and a set of prepared specimens of the common and ferro alloys.

Mining—The Mining Laboratory is equipped with an 8½x9-in. Laidlaw feather-valve compressor operated by a 25-hp. electric motor. The rock drills in the laboratory include an Ingersoll-Sergeant piston drill, a Jackhammer drill, Waugh and Butterfly stopers, and Cochise piston, and hammer drills. A Tool-O-Meter, Clark air-meter, and Obertop drill-tester are provided for testing these drills. The laboratory also contains hand and machine drill steels, an electric blasting machine and tester, mine lamps, mine shovels, hygrometers, and anemometers.

PUBLIC USE OF SCHOOL OF MINES LABORATORIES

As there are no public testing laboratories in the State of Nevada, the University Board of Regents has authorized the use of the laboratories of the Mackay School of Mines by properly qualified persons under certain restrictions. The conditions under which the laboratories may be used are as follows:

1. The laboratories may be used only during regular laboratory hours, which are from 8:40 to 12:15 a. m. and 1:15 to 3:45 p. m. from Monday to Friday, inclusive, and from 8:40 to 12:15 a. m. Saturday. The laboratories may not be used on Sunday. All work must be planned to conform to this requirement, and no motors must be left running at other times.

2. No person will be permitted to use the laboratories at times when his work will interfere with that of students, faculty, or other experimenters.

3. Any person desiring to use the laboratories must first satisfy the instructor in charge that he is thoroughly capable of undertaking the work he has in view.

4. He must then present to the instructor a written application setting forth the work he proposes to undertake and stating what machines he wishes to use and for what lengths of time. The use of the assay laboratory for routine assaying will not be permitted.

5. If the instructor approves this application, he will sign it and note thereon the fees and deposits which he considers necessary to reimburse the University for supplies used, power consumed, wear on machinery, breakage, etc.

6. The application must be presented to the Comptroller and the fees and deposits noted thereon paid before laboratory work may begin. Any unused portions of deposits may be recovered from the Comptroller upon presentation of a refund order signed by the instructor.

7. The laboratories must be kept in good order during the experiments, and at the conclusion of the experiments must be put in the same condition in which they were found.

LABORATORIES OF THE EXPERIMENT STATION OF THE UNITED STATES BUREAU OF MINES

The laboratories of the U. S. Bureau of Mines are equipped to carry on investigations in ore dressing, flotation, hydro- and electro-metallurgy, chemistry, and radioactivity. The usual facilities are provided for assaying and chemical analysis. The equipment for preliminary ore dressing

includes a Case crusher, iron rolls, Brown pulverizer, coffee mill, Abbe silex-lined ball mill, Abbe pebble mill, Patterson iron ball mill, Sturtevant impact screen, Tyler automatic screen shaker with complete set of screens, Wetherill magnetic separator, Dings magnetic separator, Richards pulsating classifier and jig, and Wilfley table. Flotation equipment of various designs includes two Ruth, two mechanical, one Colburn, and one Janney machine. The hydrometallurgical equipment consists of earthenware leaching pots, redwood agitating and settling tanks, acid-proof distributing pumps, filter presses and vacuum and pressure pumps. The electrical equipment includes an electrical switchboard of 50-K.V.A. capacity, and electric vacuum, arc, and resistance furnaces. The laboratories for work in radioactivity are provided with a full electroscopic equipment for the measurement of radium ores and the various radioactive products, and includes alpha ray, gamma ray, and emanation electroscopes, designed by the Bureau of Mines, and an apparatus for collecting radium emanation. About 500 milligrams of radium element and 30 milligram equivalents of mesothorium are available. Equipment for high-temperature measurements consists of a Brown pyrometer, a Thwing pyrometer, platinum-rhodium and base metal thermocouples, and a Leeds and Northrop potentiometer. Special equipment includes a Gaertner comparator for the measurement of wave-lengths, a photometer for determining the brightness of luminous paints, and a Caron-Clevenger reduction furnace for the treatment of refractory manganiferous silver and gold ores.

AGRICULTURAL LABORATORIES

Dairy—On the first floor of the Dairy Building are the laboratories for the manufacture of butter, ice-cream, and cheese; and equipment for bottling milk and sterlizing utensils. The refrigeration is by means of a 2½-ton Remington ammonia compressor. The dairy testing laboratory in the Agricultural Building is equipped with the necessary apparatus for making quantitative and qualitative tests of dairy products. It has lockers and desks for the students, and has ample floor room for expansion as need requires.

Experiment Station Chemical—In this laboratory the students who are interested in agricultural work have an opportunity to pursue this work according to the methods adopted by the Association of American Agricultural Chemists.

Farm Crops—This laboratory includes a large display of samples of seeds and matured plants of the different varieties of cereal and forage crops. The equipment includes a large electric germinator for testing all kinds of farm seeds for germination; a flour mill and oven for making gluten and baking tests of wheat flour; testers and cleaners; dockage machines; and other equipment used by the Federal Government for the commercial grading of grain and hay. Students will make germination and purity tests of commercial samples of farm seeds sent to the laboratory from the various farming districts of the State.

Farm Mechanics—The Farm Mechanics Laboratory will be equipped with all kinds of farm machinery, as plows, harrows, cultivators, weeders, rollers, grain drills, manure spreaders, mowing machines, rakes, binders, road drags, and levelers. Under the direction of the instructor, the construction, adjustment, and repair of these machines will be studied and different makes of machines compared. A section of the laboratory will be given to the study of gas engines. The collection of gas engines will give the students ample opportunity to become familiar with the construction and operation of the various types and makes of gas engines. Tools for taking apart and assembling the various machines, speed indicators, and apparatus for a dynamometer and break tests will be provided. In addition there will be electric-lighting outfits, hydraulic rams, pumps, and pressure systems. By the side of the building is a parking place where tractors will be placed for study. A part of the work will consist of the study of automobiles.

Farm Structures—This laboratory will be equipped with drafting tables, drafting boards, models of various farm buildings, road drags, concrete structures, and concrete forms. The work includes the design of ordinary farm and outbuildings and making complete cost estimates of these buildings.

Irrigation—This laboratory is fully equipped with apparatus for the thorough and practical demonstration of the principles of irrigation and for experimental work in connection with the courses offered to agricultural students. The laboratory equipment consists of water-measuring devices; model pumping plant with weir tank; models showing different methods of preparing land for irrigation

of various crops; models showing methods of draining lands under different conditions; drain tiles and tools for placing same; irrigation appliances for use in distribution of pumped water; and field instruments for measuring water and surveying land. The Irrigation Division has drafting-room facilities for the drawing and mapping of field work and for the computation of data secured in connection with the prescribed courses.

Range Improvement—This is the newest of the University laboratories, and its main purpose is to study the botanical character of range plants. A herbarium will be assembled including mounted and classified specimens of all the important forage plants of Nevada and of adjacent States. These plants will be arranged in accordance with the system worked out by the United States Forest Service, and will be open to the inspection of the public.

In the range laboratory notes on the habits and structures and uses of range plants will be preserved, and the laboratory will be the University headquarters of all the range investigations carried on in Nevada.

Seed—The Seed Laboratory, included as a part of the Farm Crops Laboratory, is under the direction of the head of the Department of Agronomy. Here farmers and dealers may have samples tested as to vitality and purity; a report showing percentage value of seed is mailed free to the senders of the samples. The laboratory contains a large electric germinator, a set of seed-grading tables, and a large seed-display cabinet.

Soil Physics—The Soil Physics Laboratory will contain tables fitted with gas and water, and holding the chemical reagents used in the work; soil screens; tubes for determining capillarity, water retention and effect of mulches. Various appliances for determining column weight, pore space, specific gravity, etc., will be provided. Harvard balances for weighing, not demanding extreme accuracy, and analytical balances for the more exact work will be furnished. In connection with the soil-moisture work, there will be provided balances for weighing, soil cans, an electric soil oven, and soil augers and tubes for taking samples. For the work in mechanical analysis, the laboratory will be fitted with analytical balances, agitator, soil sieves and shaker, and a centrifuge. A part of the laboratory will be used as a store-

room, where soil can be taken, dried, ground, mixed, and stored in suitable bins.

Wool—The Wool Laboratory has been equipped with forty one-half fleeces of wool, representing the various breeds from the sheep sections of America, New Zealand, Argentine, Great Britain, and Australia. Small samples of wool for study and examination are mounted on plaques. A set of microscopes will be used for minute examination of the wool structure. A laboratory machine for testing the tensile strength will be installed, also a small scouring machine and incubator for studying the shrinkage of wool. A set of cases will contain the entire Nevada exhibit displayed at the Panama-Pacific International Exposition.

Veterinary Science — This laboratory is fitted up for research in pathology and bacteriology. It is used for the work of the Department of Veterinary Science in the Agricultural Experiment Station, and the State Veterinary Control Service.

HOME ECONOMICS LABORATORIES

Cooking—The cooking laboratories, pantries and locker-rooms are on the second floor of the south half of the Agricultural Building. The Cooking Laboratory is equipped with tables, four set-in white enamel sinks, and gas plates for twelve students, around a hollow square, with all the utensils for individual practice in cooking, and with full equipment for a large quantity of cooking and catering. Adjoining the cooking laboratories are two unit kitchens equipped with gas ranges, sinks, tables, closets and utensils for preparing family-sized receipts; a wood-and-coal range, and oil and electric stoves, so that the students may learn the use of all common fuels. Adjoining the unit kitchens is a dining-room suitably furnished for catering. The large built-in side-boards and side-wall lights make the room very attractive. A few special exhibits of food products are shown in cases in the Cooking Laboratory.

Sewing—The Sewing Laboratory, well lighted by south and west windows and the modern electric fixtures, is fitted with sewing- and drafting-tables and individual lockers for twenty students, with ironing boards, irons, and six sewing-machines. Adjoining this room is a large garment-fitting room equipped with full-length triplicate mirrors and space for hanging all garments in the process of making.

Millinery—The Millinery Laboratory, on the first floor, is equipped with low work-tables and individual lockers for twenty students, with a white enamel sink for dampening and shaping hat foundations, and with a full equipment for steaming, renovating and pressing hat materials.

Demonstration — The Demonstration Laboratory and Lecture-Room has raised seats for one hundred students, and a 16-foot demonstration table equipped with a white enamel sink, and a gas range. This lecture-room is also provided with a lantern for illustration of demonstrations and lectures.

SCIENTIFIC COLLECTIONS

MACKAY MUSEUM

The Mackay Museum, located in the northwest wing of the Mackay School of Mines, contains the mining, metallurgical, geological, and mineralogical displays. The exhibits in this museum are arranged in such a manner as to give a good general idea of the mining industry of the State of Nevada, and to illustrate standard classifications of minerals and rocks. At the left of the entrance to the museum is a large map of Nevada, showing the location of all the mining districts of the State, while in the center of the museum at the rear there is a topographical map of the State on a still larger scale. The show-cases on the left-hand side of the museum present a collection of minerals arranged scientifically according to Dana, followed by a systematic collection of rocks; the cases on the right-hand side of the museum are devoted to displays of Nevada ores of the precious and base metals and of Nevada economic minerals, arranged according to counties, while the cases on the center aisle contain collections of minerals arranged according to their economic uses.

Special exhibits include examples of fossil footprints and fossil trees; a collection of rock drills from the earliest to the most recent type; an exhibit illustrating mining and various mining processes; and a collection of assay products.

Among the several collections included in the museum are the Nevada State Mining Exhibit from the Panama-Pacific Exposition, the exhibit at the Goldfield session of the American Mining Congress in 1909, the loan collection of the United States Geological Survey of the rocks and minerals of Goldfield; the Maxson collection of ores and minerals of Nevada, presented by Colonel H. B. Maxson; the collection of rocks and minerals formerly in the State Capitol at Carson City; the Cole collection, purchased from Dr. Cole by Mr. Mackay and presented by him to the museum; the Malcolm McDonald collection, presented to the University after the death of Mr. McDonald, and several other smaller collections received from various sources.

Among the gifts made to the Mackay Museum during the past two years, the following are worthy of note:

Beautiful collection of Lake Superior ores and minerals collected by Samuel Brady and donated by his son, S. H. Brady.

Large collection of ores and minerals, including many fine specimens from the Comstock Lode, from H. J. Gosse.

Miscellaneous collection of minerals from Mrs. Robert Parry.

Good collection of South American minerals, including tin and copper ores from Walter C. Rea, a former student.

Interesting specimens of arsenical and antimonial ores of the White Caps mine, Manhattan, from John C. Kirchen.

One or more fine specimens from Messrs. R. Brennan, A. A. Codd, V. P. Gianella, M. C. Hamlen, Charles Lund, J. D. Patterson, Reed, William V. Rudderow, and from the Black Panther Mining Co., Catlin Shale Products Co., Gilo Lead Mining Co., and Tonopah Divide Mining Co.

The continued growth of the museum depends largely upon the generosity of those engaged in the development of the mining industry of Nevada, and contributions of specimens of country rocks, ores, minerals, and metallurgical products, and of photographs, maps, diagrams, and models are earnestly desired.

The museum is open to the public during the school year, and as far as possible every facility will be placed at the disposal of any one who wishes to inspect or study the various collections.

AGRICULTURAL MUSEUM

The Agricultural Museum is in the southwest room on the first floor of the Agricultural Building. It includes an educational display of the most important farm crops and agricultural products of Nevada. A portion of the biological collections, including economic insect life-histories and mounts of economics birds and mammals is arranged here for public exhibition.

BIOLOGICAL COLLECTIONS

The biological collections include a set of some 400 skins and mounts of native birds; 100 sets of birds' eggs and about as many nests, donated by Mr. Steinmetz of Carson City; 250 insect life-histories and several miscellaneous groups; 75 stuffed mammal skins and mounts; 25 mounted skeletons of various vertebrates; nearly a thousand general museum prep-

arations; about 10,000 prepared microscopic slides; some 200 zoological and physiological models, and about 60 botanical models, some 900 lantern slides, as well as much miscellaneous material.

HERBARIUM

The Nevada Agricultural Experiment Station herbarium now contains 12,000 mounted sheets, nearly all of western species, and at least half of them from Nevada. Certain of the forage plants, as grasses, clovers, and lupines, are especially well represented. Although as yet small, this collection is of considerable importance, as it contains a number of types and typical plants obtained from type localities.

Connected with this herbarium is a large number of negatives depicting various phases of plant life.

PATHOLOGICAL MUSEUM

The Department of Veterinary Science has a collection of several hundred permanently mounted gross pathological specimens covering practically all the common infectious diseases of animals and miscellaneous disease processes of particular interest. The collection also contains some material from human sources, mostly representing disease processes common to both man and the lower animals. This collection is available for teaching purposes and inspection.

CHEMICAL SPECIMENS

A number of substances, representing the field of the chemical industries have been collected and placed in cases in the lecture-room of the Chemistry Building. Among these are samples purchased from chemical dealers; about 200 samples made and put up by students in the laboratory; about 80 samples of American-made dyes manufactured by the National Aniline and Chemical Company and donated by Professor Maxwell Adams; plastics, including artificial silk and leather; explosives; alloys; lubricating oils; and all the common minerals.

PUBLIC LECTURES

GENERAL ASSEMBLY

A general assembly of students of the University and members of the faculty is under the special direction of the President of the University. Lectures are given by members of the faculty and by men and women of special eminence in particular fields of study, travel, and business enterprise. The 11-o'clock hour Fridays is kept free for assemblies.

The following is a list of the lectures given in 1920–1921:

COMMENCEMENT, 1920

May 9—Baccalaureate Sermon—Reverend Raymond C. Brooks, Pastor First Congregational Church of Berkeley.
May 11—Phi Kappa Phi Address—Dr. Samuel Unsworth.
May 12—Commencement Address—John L. McNab of San Francisco.

ASSEMBLY ADDRESSES

September 10—Dean John W. Hall, Dean Robert Stewart, Director R. O. Courtright, President Richard Bryan, A. S. U. N.
October 15—Ben Scovell, Dramatic Reader, Humorist, Entertainer, and Lecturer, "Carry On!"

1921

January 6—"Who Shall Lead This Generation?" William E. Sweet of Denver.
March 4—"American Ideals," Dr. Edward T. Devine.
March 18—"Disasters of Democracy," Reverend William E. Gardner of New York City.

1920 FACULTY SCIENCE CLUB LECTURES

October 14—"The Geology of Nevada," Professor J C. Jones.
October 28—"The Election Campaign as a 'Solemn Referendum,'" Professor C. W. Spencer.
November 18—"Synthetic Gasoline," Professor F. H. Sibley.
December 2—"Mathematics and English as Discussed at the Mining Congress," Professor Walter Palmer.
December 16—"Monetary Medicines," Professor Sidney W. Wilcox.

1921

January 13—"A System of Permanent Soil Fertility," Dean Robert Stewart.
January 27—"Botulism," Dr. Meyer of the University of California Medical School and Dr. Geiger of the U. S. Public Health Service.
February 10—"Studies in Evaporation," Mr. Homer Derr.
March 10—"Recent Problems in Forecasting Stream Flow," Professor J. E. Church.
March 24—"Radium," Dr. S. C. Lind.
April 7—"Human Nature and War," Dr. J. R. Young.
April 21—"Mechanism of Immunity," Professor Peter Frandsen.

ORGANIZATIONS AND PUBLICATIONS

THE ALUMNI ASSOCIATION

The Alumni Association was organized in June, 1894. Its object is to promote union and good fellowship among the Alumni, and to advance and protect the interests of the University of Nevada. The dues of the association are $1 a year for ten years, or a life membership for $10. The annual meeting is held during Commencement week.

OFFICERS FOR 1920–1921

President.....HELEN R. HOBBINS, '11
Vice-President.....JOSEPH F. MCDONALD, '15
Secretary.....MRS. LOUISE BLANEY LEWERS, '95

THE ASSOCIATED STUDENTS

The student body is organized into an association called "The Associated Students of the University of Nevada." Through this association the students handle all matters relating to the student body as a whole, and control all athletic interests of the University subject to the approval of the Faculty Committee on Athletics. The officers of this association are elected by popular vote. By the payment of the student fee of $6 per semester a student receives the A. S. U. N. card which entitles him to a vote in the association and admission to all local games, contests, or other events under the association's management, and a subscription to the U. of N. Sagebrush.

THE STUDENT HOSPITAL ASSOCIATION

The Student Hospital Association was established by action of the student body in January, 1919. Its membership is confined to the students of the University who are away from their homes. By request of the association and with the approval of the Board of Regents, the Hospital Association fee has been fixed for the present at $2.50 each semester and is payable to the Comptroller at the time of registration. The fee will be exacted of all students who do not live with their parents or guardians in Reno or Sparks unless they present at the time of registration a written request from their parents or guardians that they shall not pay this hospital fee.

The University furnishes the hospital building with its

equipment, light and heat, and the daytime services of a matron, free to all students. The fund obtained from the hospital fee is used to provide the services of a physician, who will have regular consultation and visiting periods at the University hospital, and to provide ordinary medicines, general hospital supplies, and such general assistance as the matron may need. Membership in the association entitles the student to free consultation with the University physician and to free medical services and treatment at the University hospital in all ordinary illnesses of not more than six weeks' duration, except in those cases requiring special operations, special nursing, special prescriptions, or other exceptional services, which shall be paid for by the individual. Patients will obtain their board from the dining-hall and will be expected to pay the regular rate therefor, but the association funds will provide such special articles of diet as the matron may deem desirable, free of extra charge.

THE ASSOCIATED WOMEN STUDENTS

The Associated Women Students is an organization made up of all the women students registered at the institution. Its purpose is to bring all the women together in order to obtain more effective action. The dues are 25 cents per semester, which is deducted from the amount paid into the A. S. U. N. treasury. The organization gives a $25 scholarship each year to the woman student attaining the highest average grade for the year and who receives no other scholarship.

THE UNIVERSITY SCIENTIFIC ASSOCIATION

The University Scientific Association is an organization of those members of the Faculty who are interested in scientific research. The purpose of the organization is to broaden the outlook and to come in touch with scientific progress outside of one's own sphere of activity. Biweekly meetings are held in the lecture-room of the Agricultural Building. Reports are presented and discussed at each meeting. The subjects of the reports are either the result of individual research or articles of general interest that have recently appeared in scientific journals. The meetings are open to visitors.

Advanced students find the meetings of considerable value.

THE UNIVERSITY LIBERAL ARTS CLUB

The University Liberal Arts Club is designed to bring together members of the Faculty whose interests lie primarily

in human relations, including the languages and literatures, and the social sciences. Meetings are usually held monthly. Following the paper or address is a free discussion of the points at issue. The club cordially welcomes to its meetings any one whether from within or without the University community.

HONOR SOCIETY

The Phi Kappa Phi is a national honor society composed of graduate and undergraduate members of all departments in American universities and colleges. Its prime object is to emphasize scholarship in the thought of college students, to hold fast to the original purpose for which institutions of learning were founded, and to stimulate mental achievement by the prize of membership. This society elects to membership a certain number from the graduating class, on the basis of high scholarship.

CLUBS AND ASSOCIATIONS

The Engineering Society—All engineering students and the engineering faculty are members of the Engineering Society. The society meets once or twice a month during the semester. Engineers and technical men are invited to address the members. The purpose of the society is to broaden the view-point and increase the knowledge of the students, as well as to extend their acquaintance among practicing engineers.

The Agricultural Association—This organization includes members of the three agricultural divisions of the University of Nevada. The purpose of the association is to keep its members in touch with current agricultural development in the State and country. Meetings are held the first Tuesday night of each month in the Agricultural Building. Short talks are given by the members and by agriculturists who visit the University. The meetings are informal and are open to all members of the University and the public.

The Chemistry Club—The purpose of the club is to foster interest in the science of chemistry.

The Debating Society—Membership in Clionia, the debating society of the University of Nevada, is open to all the students of the University. Its purpose is to encourage and support debating, both local and intercollegiate.

Delta Alpha Epsilon—The purpose of this society is not only to develop histrionic talent among the young women of

the University, but to awaken an appreciative interest in dramatic interpretation by the presentation of standard plays.

Mu Alpha Nu—This club was formerly known as the "Math" Club, and its aim is the furtherance of interest in the science of mathematics.

Coffin and Keys — A club organized for the purpose of securing and rendering efficient the complete cooperation of all students by combining in organized form the men of the University who are considered leaders in student life and activity.

Home Economics Society—The faculty of the Department of Home Economics and all students electing one or more courses in that department are members of this association.

Fraternities and Sororities—The following fraternities and sororities have chapters in the University. National fraternities—Sigma Nu, Sigma Alpha Epsilon, Phi Sigma Kappa, and Alpha Tau Omega. National sororities—Delta Delta Delta and Pi Beta Phi; local—I. O. A. O. and D. K. T.

Lincoln Hall Association—The Lincoln Hall Association is an organization composed of the students of the University of Nevada who reside in Lincoln Hall. Its object is to promote and settle all matters of student concern in Lincoln Hall and to preserve its customs and traditions.

Manzanita Hall Association—Residents of this hall are organized into a body under the name of Manzanita Hall Association, with president, vice-president, secretary and treasurer elected for one year. The chairmen of standing committees, which include the phases of dormitory life (Red Cross work, laundry, room inspection, bell duty, quiet, and fire-drill), are appointed by the president of the association. Meetings of the association are held monthly.

Christian Association — The Young Women's Christian Association has a branch organization among the students with a membership of over one hundred girls in the University. The purpose of the association is the maintenance of high standards in all student relations, mutual helpfulness and pleasure, and the promotion of Christian ideals.

The Trowel and Square Club—This is a club of campus members of the Blue Lodge Masons.

Musical Organizations — Volunteer organizations for the promotion of both vocal and instrumental music are heartily

encouraged. The organizations at present are the Men's Quartet, the Women's Glee Club, and the University Band.

UNIVERSITY PUBLICATIONS

The Bulletin—The Bulletin is the official publication of the University and is issued quarterly. The object is to give to the public information concerning the various departments of the University and such other matters as may be helpful to the cause of education in the State.

University Studies—The University Studies are published at irregular intervals.

STUDENT PUBLICATIONS

The U. of N. Sagebrush—The U. of N. Sagebrush is issued weekly throughout the University year by the students of the University. The Sagebrush staff have Room 102 of the Physics Building as their office.

The Artemisia—The Artemisia is an annual published by the Associated Students of the University of Nevada.

PHYSICAL EDUCATION AND ATHLETICS

MEN

The purpose of this department is to assist the men of the University to live to the best advantage, and so to aid them in the formation of hygienic habits that during their stay at the University they may make profitable physical preparation for life. There is urgent necessity that each student should have an intelligent appreciation of the means requisite for the preservation of his health, in order that he may be able to formulate wisely his own policy of health control.

This department will take its frank part in the campaign for the control, the suppression, and the prevention of venereal diseases. Regular lectures in the department's courses will deal with venereal diseases in both their individual and their social bearings, and special lecturers will also be secured to deal with these subjects.

REQUIRED PHYSICAL EDUCATION

Physical Education is required of all Freshmen and Sophomores[1] unless excused for disability by the University physician.

PHYSICAL EXAMINATIONS

Each student on entrance to this department is given a physical examination in order that his work may be directed to meet his individual requirements. Members of squads out for varsity teams, reporting regularly, are excused from the practical work during the regular season of that sport, and are entitled to full credit in that portion of their work. Credit, the equivalent of a one-hour subject, is given and counts toward the college degree. The individual's grade rests largely on the basis of attendance, punctuality, earnestness, and application, but practical tests are also given.

UNIFORM, FEE, AND DEPOSIT

Each student must provide himself with a regulation uniform. These should not be procured until after arrival at the University.

Tentative Cost of Uniform:

White sleeveless gym shirt	$0.75
White running pants, short leg	$1.25 up
White rubber-soled shoes	$2.00 up
Athletic supporter	$0.75 up

[1]Required of Freshmen only 1920–1921; Freshmen and Sophomores thereafter.

A fee of 75 cents will be charged each semester to cover the expense of laundering the towels.

A 50-cent locker deposit is also required.

ATHLETICS

Excellent facilities are provided on the Mackay Athletic Field for all branches of athletics. American football, baseball, track, basket-ball, and tennis are the games of special prominence at present. The main policy of the University is to foster the spirit of honor and manliness in athletics, to suppress evil tendencies, and to see to it that athletic sports do not encroach upon the claims of scholarship. Athletic activities in the University are supervised by the Directors of the Departments of Physical Training for Men and Women, who are counseled by the Athletic Committee of the Faculty.

To represent the University of Nevada in a public contest, a student must conform to the following rules:

1. All contestants must be amateurs.
2. No student who is taking less than ten hours of work of University grade, and who is not attending all these classes regularly, shall be allowed to represent the University in any athletic contest.
3. On the first day of every month each team captain must submit a complete list of players comprising the squad to the Registration Committee. The Registration Committee shall, on receipt of this list, notify each student whose work is unsatisfactory.
4. The captain of each team shall submit to the Committee on Athletics at least seven days before each game a list of those persons from whom the team is to be chosen, and any person who, at that time, is reported as not passing in 60 per cent of his work shall be debarred from participating in that game.
5. Contestants must not receive any pecuniary benefit whatsoever from their connection with any athletic team.
6. No student on probation will be permitted to represent the University in any public contest.
7. All students must pass a physical examination satisfactory to the Committee on Athletics.
8. Schedules for all games must be submitted to the Committee on Athletics and approved by them.
9. Approval by the Committee on Athletics is required in the case of every individual intending to represent the University of Nevada in any single contest.

WOMEN

The University gives its young women the opportunity for an all-around physical development by maintaining a Department of Physical Education. Physical training, properly applied, makes an important contribution to sense- and motor-training and to the development of physical judgment, presence of mind, self-reliance, courage, and strength of will. These ends are sought through systematic exercise, both out of doors and in the gymnasium, as well as through the various forms of athletics suited to women.

The women students of the University have organized an Athletic Section in conjunction with the Women's League for the purpose of fostering mass and interclass athletics. Every woman is eligible to membership by participating in any sport and through this organization may win recognition in many branches of athletic activity, *i. e.*, hockey, volley ball, basket-ball, baseball, track, and tennis.

Work in Physical Education is required of all Freshman and Sophomore women. Upon entering a class, students are carefully examined and measured by the Physical Director to discover the individual needs of each. As far as possible the work of this department will be adapted to these needs. If necessary, upon the advice of a physician, Freshman and Sophomore work may be *postponed.*

During each semester of this required work instruction is given in personal and public hygiene, including sex hygiene in its personal and its public phases and including discussion of the control, the suppression and the prevention of venereal diseases.

Women taking these courses are required to provide themselves with a regulation gymnasium suit and shoes. Suits with guimpes cost from $8 to $10. Students must provide themselves with suits, but are advised not to make such purchase until they have counseled with the Physical Director for Women. A 75-cent fee is required each semester to cover the cost of laundering guimpes and towels. A 50-cent deposit for a locker key is also required.

MILITARY SCIENCE AND TACTICS

1. There is established at the University an Infantry Unit of the Reserve Officers Training Corps.

These corps were established by the Act of Congress of June 3, 1916, and are for the purpose of preparing, by systematic and standard methods of training, students at civil educational institutions for reserve officers in the United States Army.

2. The corps consists of all physically fit male students in first and second years at the University and such students who elect to continue with the advanced work in their third and fourth years.

3. The United States Government furnishes service uniforms and all equipment necessary to carry on the instruction. In addition, those who elect to continue the work in their Junior and Senior years are paid commutation of rations and are required to attend a training camp at the end of the Junior year. The commutation of rations paid to students following the advanced course is paid throughout the entire calendar year and amounts to about $180 a year. While at the training camp the student is paid $30 per month.

4. The arms, equipment, and uniforms issued to students for military training are the property of the United States for which the University is financially responsible. To protect the University against any charge for loss or damage to government property arising from misuse or neglect on the part of the student, a deposit will be required from each student registered in military as follows:

First semester of training	$30
Second semester of training	$20
Second year of training	$10

The entire deposit will be returned to any student who has completed a full year of military training, and the uniform will then become the student's own property without cost to him and subject only to the requirement that he must use this uniform for a second year's training if such second year is required of him. A student who is dropped from military for any cause during the first year will be credited with one-ninth the value of the uniform issued to him for each month in which he has used the uniform for military training; the remaining value of the uniform will be

deducted from his deposit, and the uniform will then become the property of the student.

The uniform, which will be fitted to the student, will approximate in value $35 and will normally consist of a cap, coat and breeches, waist-belt, two flannel shirts, a pair of spiral puttees, and one pair of russet shoes. All articles of the uniform, except the cap, will be suitable for civilian wear after removing the distinctive military ornaments.

5. Every cadet who is a candidate for graduation in any of the schools of the University will be required to complete the required course of military instruction. Other cadets will receive an amount of military instruction proportionate to the length of their attendance at the University. Students who are excused from military instruction will be required to take additional work aggregating the number of credits allowed for work in the Freshman and Sophomore years in Military Science and Tactics.

The following students may be exempted from military training:

a. Students over 27 years of age.

b. Students who have had military training and instruction under federal officers equivalent to that prescribed in the basic course for units of the Reserve Officers Training Corps.

6. Students who satisfactorily complete the basic and advanced military courses will be tendered commissions by the United States Government as Second Lieutenants of Infantry in the Reserve Corps of the Army.

7. No military body can attain a high grade of efficiency unless thorough discipline is maintained. Discipline is that quality which insures prompt, unhesitating, intelligent obedience to legitimate orders. In order to command, one must learn to obey.

8. The punishments to which cadets are liable are:

a. Suspension of privileges. Private reprimand.

b. Suspension from the University. Reduction to ranks.

c. Reprimand in public or in orders. Dismissal from the University.

Punishments of the first class may be inflicted by the Commandant; those of the second and third classes by the Commandant with the approval of the President of the University.

9. Courtesy among military men is indispensable to discipline. Military authority will be exercised at all times with

firmness, kindness, and justice; superiors are forbidden to injure those under their authority by tyrannical or capricious conduct or by abusive language.

10. Applications for redress of grievances, if made by individuals in a proper manner, will always receive due attention.

11. All cadets are required to perform the prescribed military duties unless excused in advance by the President or the Commandant. In case of absence without previous excuse, a written explanation will be submitted upon resuming duty. In case of sickness or injury, such explanation must be authenticated by the signature of a parent or of a physician.

12. Neglect of a recitation or an examination will be punished in accordance with the rules existing in the other departments of the University.

13. Cadets will be held strictly accountable for the care and proper use of the public property in their possession. They will use only such arms and equipments as are officially assigned (by number to each cadet) and must return them to their proper places in the armory immediately after drill.

14. Upon registration, each cadet will immediately take steps to familiarize himself with the Regulations for the Department of Military Science and Tactics.

HONORS AND COMPETITIONS

UNIVERSITY HONORS

The University gives recognition to such students as attain a high grade of scholarship by announcing at Commencement-time the students who have received honorable mention in each of the several colleges, or in their full four-year course. Honorable mention is won by attaining a standing of 90 per cent or better on the average in the full work of any one year or of the four years.

DEBATE AND ORATION

The University engages yearly in two intercollegiate debates. Teams for these debates are chosen each year by a series of preliminary contests to which all of the students of the University are eligible. In the year 1921–1922 a gold pin will be presented to every speaker who represents the University either in oratory or debate in an intercollegiate contest. A prize of twenty dollars, to be divided equally between the members of the winning team, is offered to the representatives of the class in the University which wins in a contest arranged as follows: Representatives of the Freshman and Sophomore years shall debate together, and representatives of the Junior and Senior years shall debate together. The winners of the Freshman-Sophomore contest will debate against the winners of the Junior-Senior contest. The final winners are to receive the prizes.

The student in these contests who evidences the best ability in oratory shall receive a prize of ten dollars. Each class may be represented by from two to five contestants.

GOLD MEDAL

A gold medal is awarded annually to that member of the graduating class who has attained the highest average grade of scholarship throughout his college course.

PHILO S. BENNETT PRIZE

The Philo S. Bennett prize is the interest on a fund of four hundred dollars at 4 per cent, the prize to be awarded for the best essay on "The Principles of Free Government."

UNDERGRADUATE SCHOLARSHIPS

Deserving students, whose scholarship is excellent, are, upon the recommendation of the Scholarships Committee, provided financial assistance through the medium of scholarships.

For 1921–1922 the following scholarships are available:

1. REGENTS' SCHOLARSHIPS

Five Regents' Scholarships of $50 each, to be awarded to regular students on the basis of scholarship, one to a Freshman, two to Sophomores, and two to Juniors. These scholarships will be announced at Commencement, but shall not be paid to the winners until the first of October following and after these winners have enrolled for the subsequent year's work in this University. There shall be alternates chosen, one Freshman, two Sophomores, and two Juniors, satisfying similar conditions, to whom, if they are duly enrolled for the subsequent year's work in this University, the scholarships will be given in the event that the winners are not enrolled.

2. TONOPAH LODGE OF ELKS SCHOLARSHIP

(Established, 1915)

Tonopah Lodge of Elks No. 1062 continue the scholarships begun in 1915, when they gave scholarships as follows: $100 in 1915; $200 in 1916; $300 in 1917; and $400 in 1918; and annually $400 thereafter. The scholarships are open to students of accredited high schools within the jurisdiction of Tonopah Lodge who have spent a full senior year in such accredited high school. The examination of candidates is to be held under the auspices of the University of Nevada.

3. THE ELLA S. STUBBS MEMORIAL SCHOLARSHIP

(Established, 1919)

The Women's Faculty Club offers the Ella S. Stubbs Memorial Scholarship of $100 to a student entering the Junior or Senior class who is working his way, wholly or in part, through the University and who has received no other scholarship.

4. THE ALICE G. CLARK SCHOLARSHIP

(Established, 1917)

A yearly scholarship of $250, established and maintained by Mrs. W. A. Clark, Jr., in honor of her mother, Katherine Hays McManus, is being continued by Mr. W. A. Clark, Jr., in memory of Mrs. Clark, and is to be known hereafter as the Alice G. Clark Scholarship. It is to be awarded alternately to a man and then to a woman student who is closing the Junior year and is the worthiest Junior of individual ability and need. The Scholarships Committee shall choose an alternate for the scholarship, judging on the same conditions. The scholarship award shall not be payable until October 1 following the Commencement announcement and shall be paid only if the winner is then duly enrolled for the Senior year's work in this University, otherwise it shall be paid to the chosen alternate, provided that alternate is duly enrolled for the Senior year's work in this University.

5. ASSOCIATED WOMEN STUDENTS' SCHOLARSHIP

A yearly scholarship of $25, given by the Associated Women Students of the University of Nevada to the woman student attaining the highest average grade for the year and who receives no other scholarship.

6. THE J. H. CLEMONS SCHOLARSHIP

(Established, 1919)

A yearly scholarship of $50 established by Mr. J. H. Clemons, to be awarded to that Sophomore in the College of Agriculture who is adjudged by the Dean of that College and by the Heads of the Departments of Agronomy, Animal Husbandry, Dairying, Home Economics, and Biology to be the worthiest Sophomore in the College of Agriculture. An alternate shall also be chosen by the same committee. The scholarship sum is payable on October 1 following the Commencement announcement, to the winning student if that student is then enrolled for another year's work in the College of Agriculture, otherwise the sum will be paid to the alternate if then enrolled in the College of Agriculture.

7. THE HOME ECONOMICS SCHOLARSHIP

(Established, 1921)

A yearly scholarship in Home Economics of the value of $100 is offered by Professor Sarah L. Lewis, Head of the

School of Home Economics. The faculty of the School of Home Economics, including the Dean of Agriculture, assisted by the Head of the Department of Physical Education for Women, shall choose the winner of the scholarship and an alternate.

The award will be made on the following points:

Qualities of leadership.
Appropriate dress.
Application of laws of nutrition and hygiene.
Interest in problems of the home-maker.
Scholarship.

The scholarship sum is payable on October 1 following the Commencement announcement to the winning student if that student is then enrolled for another year's work in the School of Home Economics, otherwise the sum will be paid to the alternate if then enrolled in the School of Home Economics.

8. THE LEWIS D. FOLSOM SCHOLARSHIP

(Established, 1920)

An annual scholarship of $100, given by Mrs. Mary E. Folsom of Reno, in memory of her husband, Lewis D. Folsom.

This scholarship is to be awarded alternately to a man and then to a woman student of the Junior Class, who is deemed by the Scholarship Committee to be the worthiest member of that class of individual ability and need and who is not receiving another scholarship. The Scholarship Committee shall choose an alternate for this scholarship, judging on the same conditions. This scholarship award is payable on October 1 following the Commencement announcement and shall then be paid to the winner only if enrolled for regular Senior work at the University. Otherwise, it shall be paid to the chosen alternate, provided that the alternate is duly enrolled for Senior work in this University. Under the same conditions as above, this scholarship is renewed to be awarded to a man student at Commencement, 1922.

9. THE HAYWARD H. HOWE SCHOLARSHIP

(Established, 1919)

An annual scholarship of $50 value, first awarded at Commencement, 1920, given by Miss Sybil Howe, in memory of her father, Hayward H. Howe.

This scholarship is awarded to the worthiest student in the Normal School who plans to continue work at the University

in the following University year. The scholarship will be given to the winner after the student has duly enrolled for the following University year's work. In case the winner does not so enroll, the scholarship will then go to the enrolled alternate.

10. RENO LODGE OF ELKS SCHOLARSHIPS

(Established, 1920)

Reno Lodge No. 597, Benevolent and Protective Order of Elks, has established four scholarships. These are annual scholarships of the value of $300 each. They are to be awarded by the Scholarship Committee of this lodge to four students of the University selected from a list of ten students nominated by a University Committee consisting of the President of the University, the Physical Director for Men, and the Master of Lincoln Hall. This University Committee, annually, between April 1 and April 15, is to nominate ten students who satisfy the following requirements:

1. They shall be of excellent character.
2. They shall be leaders among their fellows.
3. They shall be active participants in the athletics of the University.
4. They shall have no unremoved conditions or incompletes, and they shall have no failures in their scholarship records for the University year in which nominations are made.
5. They shall be citizens of the United States and 100% Americans.

To each of the four students selected from this nominated list by the Elks Scholarship Committee, the Elks Lodge will pay $150 on the 15th of the following September and the remaining $150 on the 15th of the following January, provided that the student is, on those respective dates, registered in the University of Nevada and in attendance upon University work.

11. RENO LODGE OF ELKS MEMBERSHIP SCHOLARSHIPS

(Established, 1920)

Reno Lodge No. 597, Benevolent and Protective Order of Elks, Reno, Nevada, grants yearly, beginning with the year 1920, membership in its lodge, with remission of all lodge fees and dues until graduation, to four selected students of this University. A committee of three from the University staff, appointed by the President of the University, is to make nominations to the Elks lodge of the worthiest Juniors and

Seniors. In selecting the nominees, the committee is to apply the following standard:

Each nominee must be a man—

1. Whose scholarship is high.
2. Whose character is excellent.
3. Who is a leader among his fellows.
4. Who is a citizen of the United States and a 100% American.

12. THE ROSE SIGLER MATHEWS SCHOLARSHIP

(Established, 1920)

This scholarship was founded by Mr. Isaac R. Mathews of Reno, Nevada, in memory of his wife, Rose Sigler Mathews. The trust fund, given by Mr. Mathews for scholarship purposes, amounts to $6,700, and yields an annual income above $300. By arrangement with the donor during the earlier years of this scholarship, the Board of Regents will grant scholarships from the income of this trust fund upon the recommendation of Mr. Mathews, and such scholarships may be, on Mr. Mathews's further recommendation, continued to his nominees, provided they make good scholarship records.

13. RENO BRANCH OF THE NATIONAL ASSOCIATION OF UNIVERSITY WOMEN SCHOLARSHIP

The Reno branch of the National Association of University Women offers a scholarship having annual value of $200. This scholarship is to be awarded to an upper-class woman student of the University of Nevada, who has taken all her work at the University of Nevada, provided that—

1. She shall have maintained a high average during the first two or three years of her college course in the University of Nevada, and shall have been active in college activities.
2. She shall not have received another scholarship for the period covered by this scholarship.

This scholarship shall be awarded on the recommendation of the University Committee on Scholarships with the approval of the Executive Committee of the National Association of University Women.

These same committees shall choose an alternate satisfying similar conditions.

The winner of this scholarship shall be announced at Commencement.

The scholarship shall be paid to the winner in two equal installments; one at the beginning of each semester in the following University year; provided, she be duly enrolled in the University of Nevada; otherwise it shall be paid to the chosen alternate provided she be enrolled.

14. THE RHODES SCHOLARSHIPS

Special attention is called to the Rhodes Scholarships in Oxford University, England, to which one appointment from the State of Nevada will be made for each of the years 1920, 1921, 1923, and so on, omitting every third year. The scholarships are each of the value of approximately $1,500 a year, and are tenable for three years.

Scholars will be selected on the basis of the following qualities:

1. Qualities of manhood, force of character, and leadership.
2. Literary and scholastic ability and attainments.
3. Physical vigor, as shown by interest in outdoor sports or in other ways.

The ideal Rhodes scholar should excel in all three of the qualities indicated, but in the absence of such an ideal combination, committees will prefer a man who shows distinction either of character and personality, or of intellect, over one who shows a lower degree of excellence in both. Participation and interest in open-air and athletic pursuits form an essential qualification for a Rhodes scholar, but exceptional athletic distinction is not to be treated as of equal importance with other requirements.

In addition to the above requirements, a candidate to be eligible for election from the State of Nevada must—

1. Be a citizen of the United States, with at least five years' domicile, and unmarried.
2. Be a student in or a graduate of the University of Nevada, or, if a student in some other university or college, a resident of Nevada.
3. By the 1st of October of the year for which he is elected have passed his nineteenth and not have passed his twenty-fifth birthday.
4. By the 1st of October of the year for which he is elected have completed at least his Sophomore year in the University of Nevada or in some other recognized degree-granting university or college of the United States.

The appointments thus far made to Rhodes Scholarships from the State of Nevada are as follows:

1907—ARTHUR LEONIDAS ST. CLAIR,[1] Deeth, Nevada.
1908—WILLIAM SCOTT UNSWORTH, Reno, Nevada.
1910—STANLEY MAYHEW WILTON, Goldfield, Nevada.
1911—CEDRIC HARDING BEEBE, Reno, Nevada.
1913—FLOYD SHERMAN BRYANT, Sparks, Nevada.
1914—WALTER CLARENCE JEPSON, Verdi, Nevada.
1917—THOMAS HENRY EDSALL,[2] Reno, Nevada.
1918—No appointment was made, owing to the war.
1919—STANLEY M. PARGELLIS, Reno, Nevada.
1920—No candidate chosen.
1921—CHARLES M. CHATFIELD, Reno, Nevada.

[1]Died February 20, 1920. [2]Died January 2, 1918.

The Rhodes Scholarships offer an unusual opportunity both for a university education in the Liberal Arts, the Sciences, Engineering, or the professions of Jurisprudence or Theology, and for travel among the chief centers of life and activity in foreign lands. These advantages, with the gift of financial means approximately ample for their enjoyment, have made these scholarships the most attractive ever established.

Further information about Oxford and the Rhodes Scholarships may be secured by addressing the President of the University of Nevada, or the Secretary of the Committee, Professor J. E. Church, Jr., Reno, Nevada.

BENEFICIARY AID

LOAN FUNDS

The Nevada State Federation of Women's Clubs has established a scholarship fund for the University of Nevada to be loaned to students in amounts varying to suit individual needs. The money thus loaned is to be returned to the fund at the borrower's convenience without interest. The fund is available first to girls, high-school graduates, or girls who have completed one year of normal or university work, the latter to have the preference. Boys are eligible under like conditions, but only when the funds are ample and no applications from girls are on file. Students desiring to take advantage of this offer will apply to Mrs. E. E. Wardin, State Chairman of the Committee on Student Loan Fund, Reno, Nevada, or to Mrs. J. E. Church, President of the State Federation of Women's Clubs, 358 Washington St., Reno.

The David Russell Loan Fund—The interest on a sum of money, approximating $20,000, is available for loans to deserving students who satisfy the President of the University of their fitness to be recipients of this aid. The money is loaned to students on the basis of 4 per cent interest until maturity.

The Olin Ward Bequest—Two scholarships of $300 each, bequeathed by Mr. Olin W. Ward. Under the terms of the will the beneficiaries of such scholarships must be earnest, industrious boys, of good moral character, financially unable to attend or continue their attendance at the University without the aid of such scholarships, and shall be chosen by the President of the University. Each beneficiary so chosen must, as a condition of his receiving such scholarship and before said sum or any part thereof is paid to him, enter into a written agreement with the Board of Regents that he will, within seven years after receiving such scholarship, pay or cause to be paid to the Board of Regents the sum of $300 for the purpose of providing a scholarship in the University for some boy having like qualifications and chosen as above specified.

OTHER AID FOR STUDENTS

It is the purpose of the officers of the University to aid meritorious students of limited means so far as it lies in their

power. Much of the work in and about the University buildings and grounds is done by young men and young women. Students are favored whenever possible with such work as typewriting, copying, housework, dining-hall service, and janitorial service. A committee allots the open positions to students who apply, giving preference to those who have good scholarship records, who need the assistance, who do the work well, and to upper classman applicants. During the year 1920–1921 the committee was able to place seventy men and women students on the Campus and through its direct efforts additional students were provided with positions in the city. Applications for campus employment should be made to the Secretary of the President. It is to be remembered that the power to favor students with self-help is limited by circumstances, and *therefore students cannot expect to earn enough to pay all their expenses while pursuing their studies.*

The *necessary campus* expenses for a University year are covered by $325 to $375 for one student. (See page 80 for tabulation of these expenses.) It is clearly better, both for the individual student and for the common student life on the campus, if students can do their necessary money-earning during the long summer vacation. If they can have all their time during their University year free for their studies and for their participation in general student activities, they will more surely develop themselves into fully rounded men and women than if they are compelled to inroad their time with many hours each week given to work for pay. *Particularly is it desirable that first-year students should, if possible, plan fully to finance their first year without necessity of working for pay during the University year.*

EXPENSES OF STUDENTS

TUITION

In accordance with legislative enactment, no tuition is charged to students from Nevada. The Board of Regents is empowered to charge tuition to students who come from outside of Nevada. For the University year beginning September, 1921, the Board of Regents has set this tuition charge, payable by students from outside Nevada, at $30 per semester.

LATE REGISTRATION FEES

A fee of $3 is charged for registration later than the regular enrolling days of each semester. No exception is made to this rule. Each student shall complete his registration by 4 p. m. of the third day after he begins registration, otherwise he shall pay to the Comptroller 50 cents for each day or fraction of a day thereafter until his registration is completed.

UNIFORMS

Young women are required to provide themselves with a regulation gymnasium outfit costing about $8 to $10.

Students in cooking will provide themselves with two white aprons and caps, costing about $3.

Military students must make deposits of $30 for first semester, $20 for second semester, and $10 for second year of their required military work. These deposits cover uniforms and equipment.

THE DORMITORIES

Manzanita Hall—Manzanita Hall is the campus residence for women students. It is a well-ventilated, -heated and -lighted dormitory brick building, with all modern conveniences and comfortably furnished. It can accommodate, at present, seventy-five women residents.

Dean of Women Margaret E. Mack and Assistant Dean of Women Helena Shade live in Manzanita Hall and have supervision over it and over the University Dining-Hall.

Unless women students have applied for residence in Manzanita Hall in excess of the number which can be accommodated, all unmarried women students who are not residents of Reno or Sparks are expected to live in Manzanita Hall. Exceptions to this rule may be granted by the Dean of Women. Residence privilege in this hall will not

be granted to married women unless they were formerly students of the University. The Dean of Women, upon request, will secure suitable homes for any women students who cannot be accommodated in Manzanita Hall.

Application for residence privileges in Manzanita Hall should be made to the Dean of Women who will consider such applications in the order of their receipt. Special application blanks for hall residence will be sent on request made either to the Registrar of the University or to the Dean of Women.

All residents of Manzanita Hall are required to register in and to carry throughout each semester at least fourteen credit hours of University work unless excused by the Dean of Women.

Room rent is $5 per month, payable in advance, for the semester, at the first of each semester. Students coming to Manzanita Hall must be provided with the following articles: Four sheets, 60x90 inches; four pillowslips, 20x30 inches; two white bedspreads; one pair of blankets; two comforts; one mattress protector, 3x6 feet, six good towels, two dresser scarfs, and personal toilet articles. If white curtains and rugs are desired, they must be supplied by the students. Young women should also have two large aprons for work in the laboratories. All articles of room equipment and wearing apparel should be plainly marked with the name of the owner. Residents at Manzanita Hall are required to take care of their own rooms and linen.

Manzanita Hall will open Monday, September 5, 1921, to receive student residents for the University year 1921–1922.

Lincoln Hall—Lincoln Hall is the University home for young men. The building has accommodations for 90 young men, and it is equal to the best of modern college halls. Associate Professor Turner lives in the hall and is in charge. Young men coming to Lincoln Hall must provide themselves with the following articles: Two white bedspreads; one pair blankets; one comfort, 72x90 inches; one mattress protector, 3x6 feet; six good towels, and personal toilet articles. All articles of room equipment and personal wearing apparel should be plainly marked with the name of the owner. The charge for room in the Hall is $6 per month, payable for each semester at the beginning of the semester.

Application for residence privileges in Lincoln Hall should be made to Master of Lincoln Hall, A. E. Turner, who will consider such applications in the order of their receipt.

Special application blanks will be sent upon request made either to Mr. Turner or to the Registrar of the University.

On being assigned a room in Lincoln Hall or Manzanita Hall, a deposit of $5 will be required to cover any possible damage to furniture or fixtures. This deposit will be refunded at the end of the semester on presentation of a proper certificate from the officer in charge of the Hall.

Lincoln Hall will be open Monday, September 5, 1921, to receive residents for the university year 1921–1922.

THE UNIVERSITY DINING-HALL

For the accommodation of the students the University conducts a dining-hall in roomy quarters adjoining Manzanita Hall. The service is maintained for the purpose of obtaining board and table service of the most acceptable character and at the most reasonable figure. Students boarding at the dining-hall will be charged $25 per month for board. All students residing at a University dormitory are obliged to board at the University Dining-Hall.

REGULATIONS GOVERNING THE UNIVERSITY DINING-HALL

1. Board is payable in advance.
2. Students desiring to board regularly at the University Dining-Hall will be required to register with the head waiter.
3. Registration at the Dining-Hall will be made only on presentation of the Comptroller's receipt for board paid, or of a special permit issued by the President. In order to furnish board at the rate charged, it is imperative that all board bills be paid, and it is therefore ordered that no credit be extended. *Students who intend to board at the Dining-Hall will be expected to come with sufficient money to keep their board paid one month in advance.*
4. No rebate shall be made on board for less than one week's continuous absence. Due notice must be given and permission secured from Miss Mack in advance, or no rebate will be allowed.

PREFERENCES IN DINING-HALL AND DORMITORIES GIVEN TO NEVADA STUDENTS

The Board of Regents adopted the following rule:

Whenever the requests for University of Nevada dormitory or dining-hall privileges exceed the number that can be accommodated, preference shall be given as follows:

(1) To Nevada students.
(2) To formerly enrolled students from outside Nevada.
(3) To new students from outside Nevada.

LABORATORY FEES AND DEPOSITS

LABORATORY FEES—The maintenance of its complete and valuable laboratories is a constant and heavy expense to the University. For this reason certain departments must charge

fees to cover special expenses incident to their work. These fees are calculated to cover the cost of the materials used and the expense incurred by the individual student.

LABORATORY DEPOSITS—Deposits are required to cover costs of breakage in laboratory courses where breakages are liable to occur. These deposits are payable at the beginning of each semester. At the end of the semester deduction is made for actual breakage, and the balance of the deposit is refunded to the student upon order from the head of the department.

If a student takes two or more courses in any one department where a fee is required, the fee for each course must be paid; however, one deposit only is required under the same conditions.

ASSOCIATED STUDENTS MEMBERSHIP FEE

At the request of the Associated Students of the University the Board of Regents voted to make the fee for membership in the Student Association a compulsory fee upon all students except visitors. Hereafter the fee, $6 per semester, which will include subscription to the U. of N. Sagebrush, must be paid to the Comptroller at the time of registration.

MEDICAL FEE

At the request of the Associated Students of the University the Board of Regents voted to make the medical fee for membership in the Hospital Association a compulsory fee upon all students with the exception of those who present, at the time of their registration, written request from their parents or guardians that they shall not pay this hospital fee, and with the exception of those students who live in Reno or Sparks. This fee is $2.50 per semester and is payable to the Comptroller on registration.

FEES AND DEPOSITS PER COURSE PER SEMESTER, 1921–1922

	Fees	*Deposits*
Agronomy 4, 72	$1.00	.....
Agronomy 6, 62	3.00	$3.00
Agronomy 4, 53	2.00	.....
Agronomy 57	3.00	.....
Agronomy 58	5.00	.....
Agronomy 62	1.00	1.00
Agronomy 71	1.00	2.00
Agronomy 73	2.00	2.00
Animal Husbandry 4, 56	3.00	.....

Athletic fee (Associated Students)	$6.00	.....
Bacteriology 51	2.00	$2.00
Botany 1, 2, 53	1.00	2.00
Botany 56, 64, 71	2.00	2.00
Botany 91, 92–93 (fee and deposit per credit-hour)	1.00	1.00
Chemistry 3, 4, 9, 10	6.00	5.00
Chemistry 7, 62	2.00	5.00
Chemistry 23, 24, 51–52, 84, 100	4.00	5.00
Chemistry 63–64, 200 (fee per credit-hour)	2.00	5.00
Civil Engineering 52, 54, 60	3.00	5.00
Civil Engineering 58	5.00	5.00
Civil Engineering 72	2.50	.....
Civil Engineering 90	1.00	.....
Dairy Husbandry 1	2.00	2.00
Dairy Husbandry 54	3.00	.....
Dairy Husbandry 55	1.00	3.00
[1]Diploma (Degree or Certificate)	5.00	.....
Electrical Engineering 60	2.50	2.50
Electrical Engineering 61–62, 63–64	2.50	5.00
Geology 52		5.00
[2]History Syllabus	25c to 1.00	.....
Home Economics 31–32, 56, 83–84, 85	5.00	1.00
Home Economics 9, 15, 16, 18, 45, 49, 50, 65–66, 95	2.00	1.00
Home Economics 88	1.00	1.00
Home Economics (locker)		.50
Home Economics 87	1.50	.....
Horticulture 1	2.00	2.00
Horticulture 11	1.00	1.00
Hygiene 7–8, 53	1.50	2.00
Mechanic Arts 1, 2, 3, 4, 6	3.50 per credit	
Medical Fee (Hospital Association)	2.50	.....
Metallurgy 51	15.00	.....
Metallurgy 52, 70	5.00	5.00
Metallurgy 56	1.00	5.00
Metallurgy 65	5.00	.....
Metallurgy 80, 180 (deposit according to work).		
Military		5.00
Mineralogy 1, 2		4.00
Nature Study 1–2	1.00	2.00
Physical Education (locker)		.50
Physical Education (laundry)	.75	.....
Physics 1–2, 5–6, 55–56, 57–58, 63, 69–70	3.00	5.00
Typewriting	1.00	.....
Zoology 2, 9, 51	2.00	2.00
Zoology 53, 63–64, 66, 91, 92	1.00	2.00

[1]If two diplomas are granted in one year, the charge will be $5 for the first and $3 for the second; if three diplomas are granted in any one year, the charge will be $5 for the first, $3 for the second, and $2 for the third.

[2]According to work being done.

TABULAR ESTIMATE OF NECESSARY EXPENSES OF STUDENTS
EXCLUSIVE OF CLOTHING AND TRAVELING[1]

	Low	*Moderate*	*Liberal*
[2]Tuition	None	None	None
Board, 36 weeks	$216.00	$216.00	$325.00
Room	45.00	54.00	108.00
[3]Laundry	25.00	35.00	50.00
Books and stationery	15.00	25.00	45.00
Fees (laboratory, athletic, medical, etc.)	20.00	30.00	40.00
Totals	$321.00	$360.00	$568.00

[1]The low and moderate estimates apply to residents of dormitories. The liberal estimate, with the exception of books and fees, applies to students living elsewhere.

[2]Students from outside the State of Nevada must pay a tuition of $30 each semester.

[3]This item may be greatly reduced by residents in Manzanita Hall who choose to take advantage of the house-laundry facilities.

GOVERNMENT OF THE STUDENTS

In the government of the University the largest liberty consistent with good work, good order, and good character is given the students. Their habits of life are expected to be such as to promote daily cultivation of high moral character. They are expected in all their relations to each other and to the University to observe the usages of good society without requiring special regulations for that purpose. They are expected to be punctual and regular in their attendance upon all University exercises. The State provides its bounty for the earnest and industrious student. The indolent or the unworthy will not be retained in the University. Young men and young women who do not intend to give themselves up to the very highest demand of university life are advised to remain at home or to go elsewhere.

OFFICIAL NOTICES

Students should watch the bulletin-board for notices. AN OFFICIAL NOTICE PROPERLY POSTED IS DEEMED SUFFICIENT INFORMATION TO ALL STUDENTS.

ADMISSION AND DEGREES

Applicants for admission to first-year standing in the University of Nevada should present satisfactory evidence of having completed fifteen units of high-school or preparatory work. A "unit" represents a year's study in any subject in a secondary school, constituting approximately one-quarter of a full year's work. Two periods of laboratory work, or shop work, count as the equivalent of one recitation. Examinations will be required of all students who do not present acceptable credentials.

All high-school and other certificates which are to be presented for admission should be forwarded to the Registrar of the University prior to the time the student expects to enter.

LIMITATION OF ENROLLMENT

The Board of Regents at its Commencement session, held May 11, 1920, unanimously adopted the following rules for limitation of enrollment in the University of Nevada, to be applicable from and after September 1, 1920:

That the University of Nevada shall not, during either semester of any University year, receive students whose families or whose guardians reside outside the State of Nevada or who, if they have been living independently of family or guardian, have themselves been residing outside the State of Nevada, to a number exceeding 50% of the total number of students from Nevada enrolled during the preceding University year, September to May, inclusive; *provided*—

(a) That the above limitation shall not be put into effect until the total enrollment of the University has reached 600 for a given semester, or when it will reduce the enrollment below 600; and

(b) That the above limitation policy shall not operate to exclude any students from outside the State of Nevada who desire to enroll in the regular courses for mining engineers and who are fully qualified for entrance or advanced standing in the Mackay School of Mines.

REQUIREMENTS FOR ADMISSIONS TO THE SEVERAL COLLEGES AND SCHOOLS

ADMISSION OF CANDIDATES FOR DEGREES

The privileges of the University, while open to all qualified persons of good character and serious purposes, are designed

primarily for those who satisfy the requirements for admission and become candidates for degrees. In order to insure some breadth of view on the part of students as well as some degree of achievement, curricula have been established in the several colleges, each intended to meet the needs of a considerable body of students. So far as is consistent with the purposes the curricula are intended to fulfil, students are left free to choose their work according to their individual needs and tastes. For most persons it is believed that the pursuit and completion of a regular curriculum is of much higher value than any unrestricted selection of courses. The University wishes, therefore, to impress upon parents and students its firm belief that, under all ordinary circumstances, students should satisfy the requirements for admission and pursue the regular curricula.

TO THE COLLEGE OF ARTS AND SCIENCE; AND TO THE NEVADA STATE NORMAL SCHOOL

For unconditional admission, 15 units.

I. *Required:* English, 3 units.
Mathematics, 2 units (Algebra and Plane Geometry).

II. *Elective in Groups:*
Three in one and two in another; or two units in each of three of the following groups:

1. Foreign Language: (If foreign language is offered for admission, at least two units must be in one language.)
Latin. French. German.
Greek. Spanish.
2. Natural Sciences:
Botany. General Science. Physical Geography. Physics.
Chemistry. Geology. Physiology. Zoology.
3. Social Sciences:
Economics.
History (Ancient, Medieval, and Modern, English, or American History and Civics).
4. Mathematics: c and d.

III. 10 of the 15 required units must be from Divisions I and II.

IV. *Free Electives:* 5 or 4 units.
These may be selected from any of the above subjects, or from any of the subjects appearing on the next page. Not more than 4 units may be taken in subjects 17 to 24, inclusive, and not more than 3 units in any one of these subjects. A student who offers the foreign language group (at least 2 units in one language) may offer 1 unit in another language, but ordinarily he is not prepared to take the second year of that language in the University.

TO THE COLLEGE OF ENGINEERING

ALL SCHOOLS

I. *Required:*	English	3 units
	Mathematics	3 units
	Algebra ..... 1½ units	
	Plane Geometry ..... 1 unit	
	Solid Geometry ..... ½ unit	
	History	1 unit
	Physics	1 unit
	Additional Science	1 unit
II. [1]*Elective*		6 units
	Total	15 units

[2]TO THE COLLEGE OF AGRICULTURE

SCHOOL OF AGRICULTURE

I. *Required:*	English	3 units
	History	1 unit
	[3]Mathematics	2½ units
	Natural Science	2 units
II. *Elective:*	Academic or vocational subjects	6½ units
	Total	15 units

SCHOOL OF HOME ECONOMICS

I. *Required:*	English	3 units
	History	1 unit
	Mathematics	2 units
	Natural Science	2 units
II. *Elective:*	Academic or vocational subjects	7 units
	Total	15 units

Students intending to enter the Home Economics Department will find the requirements more easily fulfilled if they will present one year of Chemistry and one year of French toward entrance requirements.

SUBJECTS ACCREDITED FOR ADMISSION

Subject	*Units*[3]
1. English (a)	1
English (b)	1
English (c)	1
English (d)	1
2. Latin (a)	1
Latin (b)	1
Latin (c)	1
Latin (d)	1

[1]The electives may be chosen from recognized high-school subjects, but in no case may more than 2 units be elected in any one vocational subject or more than 4 be elected in vocational subjects. It is advised that the electives include 2 units of foreign language, preferably modern language, and that the science requirement be in chemistry. In certain meritorious cases some entrance credit, not exceeding 1 unit, may be granted for practical experience.

[2]Students offering only 1 unit of algebra and 1 unit of plane geometry are required to take Mathematics 11 and 12 in the College. Students offering 1 unit of algebra, 1 unit of plane geometry, and ½ unit of plane trigonometry are relieved from taking mathematics in the College.

[3]A unit represents a year's study in any subject in a secondary school, constituting approximately a quarter of a full year's work. Two hours of laboratory work are regarded as the equivalent of one hour of prepared work.

3.	Greek (a)	1
	Greek (b)	1
4.	German (a)	1
	German (b)	1
5.	French (a)	1
	French (b)	1
6.	Spanish (a)	1
	Spanish (b)	1
7.	Ancient History (a)	1
	Medieval and Modern History (b)	1
	English History (c)	1
	American History and Civics (d)	1
8.	Economics	1
9.	Algebra (a)	1
	Plane Geometry (b)	1
	Advanced Algebra (c)	½
	Solid Geometry (d)	½
10.	General Science	1
11.	Physics	1
12.	Chemistry	1
13.	Physical Geography	½ or 1
14.	Botany	½ or 1
15.	Zoology	½ or 1
16.	Physiology	1
17.	Music	½ to 3
18.	Drawing	½ to 3
19.	Agriculture	½ to 3
20.	Domestic Science	½ to 3
21.	Manual Training	½ to 3
22.	Shopwork	1 to 3
23.	Bookkeeping	½ to 3
24.	Stenography	1 to 3
25.	Vocational Work	1
26.	Commercial Law	½ to 1
27.	Commercial Arithmetic	½ to 1
28.	Commercial Geography	½ to 1
29.	Typewriting	½ to 1

Additional units for subjects listed above or additional subjects will be accepted if approved by the Committee on Admission and Advanced Standing.

METHODS OF ADMISSION

The credits required for admission to the undergraduate department, as detailed above, may be secured:

By examination;

By certificate from an accredited high school or other secondary school;

By transfer from any university or college of recognized standing.

ADMISSION BY EXAMINATION

Examinations for admission are held at the University immediately preceding the opening of the fall semester. These examinations cover all subjects required or accepted for admission.

ADMISSION BY CERTIFICATE FROM AN ACCREDITED PREPARATORY SCHOOL

On application to the Registrar blank certificates may be obtained by students who wish to enter the University by this method. Students should obtain blanks early and should have them filled out and sent to the Registrar for approval as soon as possible after the closing of the high-school year in June.

ADMISSION BY TRANSFER

Admission is granted by transfer from any university or college of recognized standing on presentation of the proper credentials, but such credit is provisional until the first year's work is completed.

ADMISSION OF PERSONS WHO ARE NOT CANDIDATES FOR DEGREES

Unclassified Students

An "unclassified" student is one who has satisfied the regular requirements for admission, but who, for reasons satisfactory to the Dean of his college, does not desire to pursue any regular curriculum. He shall present to his Dean a written application for permission to register as an unclassified student, stating why he does not wish to take a regular curriculum, and specifying the courses of instruction he wishes to elect, the prerequisites to which he must already have satisfied. Unless he is over 21 years of age or is self-supporting, his application must bear the approval of his parents or guardian.

Unclassified students are subject to all rules relating to registration and scholarship. By satisfying the requirements in any curriculum for which they have full admission, they may become candidates for degrees.

Special Students

A special student is one who *cannot* satisfy the requirements for admission to the college in which he wishes to study. Any person who can satisfy such requirements will be permitted to register only as a regular or as an unclassified student.

Special students must be at least 20 years of age. Except upon the specific recommendation of the principals of their high schools, students who in the previous semester were in high schools will not be admitted to special standing. All applicants must present certificates of good character from reliable persons, credentials covering such academic work as they may have done, or other evidence of their ability and disposition to do satisfactory work in the University. Persons who have shown no serious purposes either in school or in employment will be refused admission. Those admitted will usually be expected to register in not fewer than ten hours in courses of elementary character which may be counted for admission. They will be permitted to register in advanced courses only upon the approval of their Dean and the head of the department concerned. They are expected to meet all requirements for regular admission within two years after entering the University. Except by action of the University Faculty, no person will be permitted to register as a special student for more than four semesters.

For any person who can present satisfactory reasons for such action, the rules relating to the minimum age limit and the minimum number of hours of registration may be waived by vote of the University Faculty.

Special students are subject to all the rules relating to registration and scholarship. By satisfying the requirements for admission to any college they may gain regular standing and become candidates for degrees.

War special students will be admitted at 18 years of age or over.

Visitors

With the consent of the President and the instructors concerned, regular visitors may be enrolled as such, during the first five weeks of the term. They shall be governed by the regular University rules. Casual visitors may not have the privilege of attending a class in excess of four times during any given semester except with permission from the President. No official record of these visits need be made. Regularly enrolled students of the University, who are registered for the full number of hours, may be allowed only the privilege of the casual visitor. Under no circumstances will visitors be allowed to do laboratory work, engage in class discussion, take the time of the instructor from regular class work, or receive credit toward a degree. If a visitor registers

after the regular days for registration such visitor shall pay the late registration fee of $3.

ADMISSION TO ADVANCED STANDING

Students who have graduated from a full four-year high-school course and who have also graduated from a one-year professional course in an accredited normal school are allowed one year's credit on advanced standing.

Graduates from a two-year normal school, who are also graduates from a full four-year approved high-school course, will be allowed two years' credit on advanced standing, if they have completed all of the prescribed requirements for admission, and provided the subjects offered for advanced standing are in harmony with the group requirements for graduation.

The preceding statements refer to advanced standing granted by the College of Arts and Science and the State Normal School. All other applicants for advanced standing from reputable universities and colleges will receive, upon presentation of their credentials, such credit as the Committee on Admission and Advanced Standing may deem fair. In all doubtful cases the claims will be referred to the heads of the departments. All credit for advanced standing, however, is provisional and subject to revision at the end of the first year following the enrollment of the student. No such student, however, will be granted a Bachelor's Degree or a diploma without at least one full year of work in residence.

UNIVERSITY RULES GOVERNING REGISTRATION

The following rules govern matters of registration, classification of students, conditions and failures, late registration, absences, hours of registration, withdrawals, transfer of students from one college to another, and honorable dismissal:

1. Method of Registering

1. On registration day the student will secure a registration blank from the Registrar. This card will be filled out by the student in accordance with the directions thereon.

2. In registering, the student will observe carefully the rules governing conditions, failures, maximum number of hours, status, and prerequisites.

3. All students having required courses must give preference to such courses in regular sequence; no required course may be deferred beyond one year.

4. Students are expected to remove entrance deficiencies in their Freshman year. At the close of the second semester of each year the Committee on Admission and Advanced Standing will send to the Registration Committee a list of all Freshmen who have not registered for or who have failed in entrance subjects in which they were deficient. The Registration Committee shall then hold up the registration of such students in their Sophomore year until they register for the subjects in which they are deficient.

5. The signature of the instructor must be obtained for each course the student wishes to pursue.

6. The card must then be approved and signed by the Dean of the College in which the student has registered.

7. After having obtained the Dean's approval, fees will be paid to the Comptroller, who will issue receipts for the same. These receipts must be presented to the Registrar and to the heads of the departments concerned.

8. The registration card shall finally be deposited with the Registrar, who in turn will issue class cards to be filled out by the student and returned to the Registrar. These cards shall be sent to the various instructors and shall entitle the student to enter the classes concerned.

9. Any change of residence occurring after the completion of the student's registration should be reported to the Registrar immediately.

II. Classification of Students

1. Three classes of students, seeking college credit, are recognized—regular, unclassified, and special.

2. A "regular" student is one who has satisfied the requirements for admission to a college and is pursuing a curriculum leading to a diploma or degree.

3. An "unclassified" student is one who has satisfied the requirements for admission to a college, but, for reasons satisfactory to his Dean, is not pursuing a regular curriculum.

4. A "special" student is one who, though unable to satisfy the requirements for admission to the college in which he wishes to study, is permitted to register in courses for which he has satisfactory preparation.

5. For regular Sophomore, Junior, or Senior standing, a student's deficiencies must not exceed 6 college units from the requirements of his college.

III. Conditions and Failures

1. Each instructor will determine the final grade of his students by any method he may consider best adapted to his course.

2. Any student who receives a final grade of 5 in any subject shall be considered as "failed" in that subject.

3. Any student who receives a grade of 4 shall be conditioned. A condition may be removed by satisfying the requirements of the department.

4. A failure shall be removed by repeating the subject in class. This must be done as soon as the study is repeated in the University program, and any subject in which a student has failed takes precedence over all other subjects in the arrangement of his program.

5. If a condition in any course is not removed within the next year of the student's residence after it is incurred, the course must be repeated in class.

6. A student may be dropped from class at any time for negligence or misconduct upon recommendation by the instructor and with the approval of the committee concerned.

7. A student may be placed on probation or suspended from the University at any time his scholarship or conduct warrants such action. In general, whenever a student is failing to pass in two-thirds of his work, he is liable to be placed on probation or to be suspended from the University. Each individual case will be considered by the Committee on Registration and Scholarship.

8. Students who have twice been suspended for unsatisfactory work are not permitted to register again.

9. No student while on probation may represent the University in any public contest.

10. By a vote of the Faculty Committee on Registration, the rules stated above may be waived for any student who can show that his unsatisfactory record is due to reasons for which he is not personally responsible.

IV. Late Registration

1. A fee of $3 shall be charged for belated registration, and there shall be no exception to this rule.

2. A student who begins to register after the regular registration days shall not be permitted to enroll in the number of hours to which he would otherwise be regularly entitled;

for every week or fraction thereof of delay in registering one hour will be deducted.

3. Students who present themselves for matriculation in the University as late as thirty days after the opening of either semester will be denied entrance by the Committee on Admission and Advanced Standing unless they satisfy the committee of their fitness and ability to carry on the work in which they wish to register. Furthermore, such students must present the written approval of the instructor under whom they wish to enroll for work, and that of the Dean of the College in which they register. All such students should communicate with the chairman of Committee on Admission and Advanced Standing before presenting themselves for matriculation, to ascertain if work can be arranged satisfactorily.

4. No person will be permitted to register as a student after the close of the fifth week of either semester. This rule applies also to changes in registration.

5. Each student shall complete his registration by 4 o'clock p. m. of the third day after he begins registration, otherwise he shall pay to the Comptroller 50 cents for each day or fraction of a day thereafter until his registration is completed.

V. Absences

1. The business of a student is at the University and the regulations regarding absences should be lived up to cheerfully. Each student is expected to be present at every college exercise for which he is registered.

2. For each total of 17 absences during a semester, or for a total of 26 absences during both semesters, the student will receive one negative credit. For a total of 34 absences during both semesters he will receive two negative credits, and an additional negative credit for each additional 17 absences.

3. In extraordinary cases, such as prolonged illness (of three or more days duration, accompanied by a physician's certificate), quarantine, or absence due to serious illness or death of a member of the immediate family, the University Faculty or Registration Committee may exempt a student from the operation of the rule.

4. Absence incurred by reason of University activities may be excused in advance by the Registration Committee.

5. Each instructor shall be required to report weekly to the Registrar's office all absences incurred in his classes during the week, or that no absences have been incurred.

VI. Hours of Registration

1. In addition to required Military Science and Physical Education, regular students in the Colleges of Engineering or Agriculture shall register for eighteen hours except in the School of Home Economics, where an average of only 17.12 units is required. In the Normal School, or in the College of Arts and Science, students shall register for fifteen hours in addition to required Military Science and Physical Education.

2. No Freshman during the first semester shall be allowed to enroll in more credits than his regular course requires.

3. Any student may at any time enroll in as low as three credits less than his course requires, but to take less than this amount the student must have the Dean's permission.

4. In case a student during the previous semester[1] receives above 3 in three-fourths of all of his work, and has no 4 or 5, he may enroll in a maximum of three hours above the normal requirement of his course. No other student shall be allowed any extra work.

Two exceptions may be allowed to this rule:

(1) A Senior, who, during the previous semester, carried the allowed three extra hours, received above 3 in three-fourths of his work, received no 4 or 5 in any work, and who needs one to four hours for graduation above that allowed by the rule, may be allowed to register, each semester, in one or two hours above the extra three allowed by the rule.

(2) A Senior, who, during the previous semester, received above 3 in two-thirds of his work, received no 4 or 5 in any work, and who lacks for graduation a few more hours than the rule allows, may be allowed three hours above his regular course. The Registration Committee shall enforce this rule.

5. In case a student fails to pass in some of his work during the previous semester, the Dean may restrict his registration to fewer hours than his course regularly requires.

6. The Registrar shall check up these regulations for each student when he finishes registering.

7. At any time, with the approval of the Deans concerned,

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[1] *Previous semester*, when used to determine the maximum number of hours, shall be construed to mean the last semester in which a student was registered.

Students entering from another school with advanced standing who wish to take extra hours must furnish records to the Registration Committee showing that the work previously done was of grade corresponding to that required of our own students who are eligible for extra hours.

a student may change his registration from one college to another. In so transferring, the student shall satisfy the admission requirements of the college to which he transfers, effective at the time he is admitted to the University, and he shall satisfy the course of study of the college to which he transfers, effective at the time the transfer is made, the details of the transfer to be handled by the Committee on Admission and Advanced Standing.

8. Special students must enroll in at least ten hours of work. Exception to this rule can only be made by action of the University Faculty.

VII. Withdrawals

1. A student who wishes to withdraw from any course shall first secure from the Registrar a withdrawal slip. He shall take this to the instructor in the course in question for his recommendation. When the recommendation signature of the instructor is secured, he will then report to the Dean of his college, who may grant a withdrawal from the class. The withdrawal slip must be filed by the student with the Registrar, who shall notify the instructors concerned. The date of the withdrawal shall be the date on which the slip is filed with the Registrar.

2. After the end of the sixth week of the semester a student desiring to withdraw from a course must present to the Dean a written statement from the instructor stating that his work done to date is of passing grade, otherwise the record will be "withdrawal with failure."

3. In courses in which fees are charged no fees will be returned to the student upon withdrawal from class after the end of the fourth week of any given semester.

VIII. Transfer of Students to One College from Another

1. When a student transfers from one college to another he shall have the same standing in the college to which he transfers as he had in the college from which he transferred, except that he shall satisfy the specific requirements of the college to which he transfers.

IX. Honorable Dismissal

1. Upon the request of a student in good standing, the Registrar will issue a letter of honorable dismissal. If the

student desires to enter another university, a copy of his or her university credentials, including entrance, will accompany the letter.

THE GRADING SYSTEM

1. The following grading system will become effective in May, 1921:

1	equals	95% to 100%	
1.5	equals	90% to 94%	
2	equals	85% to 89%	
2.5	equals	80% to 84%	(passing)
3	equals	75% to 79%	
3.5	equals	70% to 74%	
4	equals	60% to 69%	(condition)
5	equals	Below 60%	(failure)

2. In order to carry extra work during any semester, a student shall receive above 3 in three-fourths of all of his work in the preceding semester, and shall have no grades in Sections 4 and 5. Exceptions are made to this rule in the case of Seniors:

(1) A Senior, who, during the previous semester, carried the allowed extra three hours, received above 3 in three-fourths of his work, received no 4 or 5 in any work and who needs one to four hours for graduation above that allowed by the rule, may be allowed to register, each semester, in one or two hours above the three extra allowed by the rule.

(2) A Senior, who, during the previous semester, received above 3 in two-thirds of his work, received no 4 or 5 in any work, and who lacks for graduation a few more hours than the rule allows, may be allowed three hours above his regular course. The Registration Committee shall enforce this rule.

3. In order to graduate, a student shall have at least 50% of all his credits above a grade of 3.

4. In determining honors, the average of the figures representing the grades per credit shall be taken.

REQUIREMENTS FOR GRADUATION

A candidate for a Bachelor's Degree must pass in all the subjects both prescribed and elective in his chosen course, and he must conform to all directions given in connection with that course in regard to electives.

In the College of Arts and Science credit for 124[a] credits for men and 123 for women are required for graduation.

In the College of Agriculture credit for 148[a] credits must be presented, except in the School of Home Economics, where only 137 credits are required.

In the College of Engineering and in the State Normal School a candidate must complete the course of study as laid down.

DEGREES

The College of Arts and Science confers upon its graduates the Degree of Bachelor of Arts. Any student, however, who pursues a course in which the natural sciences or mathematics have received particular emphasis may, upon petition to the faculty of the College of Arts and Science, be granted the Degree of Bachelor of Science.

Upon graduates of the College of Engineering are conferred degrees as follows: Graduates of the Mackay School of Mines receive the degree of Bachelor of Science in Mining Engineering. Graduates of the School of Mechanical and Electrical Engineering receive the Degree of Bachelor of Science in Mechanical Engineering or Bachelor of Science in Electrical Engineering. Graduates of the School of Civil Engineering receive the Degree of Bachelor of Science in Civil Engineering.

Graduates of the College of Agriculture receive the Degree of Bachelor of Science in Agriculture. Graduates from the School of Home Economics receive the Degree of Bachelor of Science in Home Economics.

A charge of $5 is made for all baccalaureate diplomas. If, however, a student in addition to receiving the baccalaureate degree receives a diploma for a teacher's certificate, the arrangement of the charge is as follows: If two diplomas are granted in any one year, the charge will be $5 for the first, and $3 for the second; if three are granted in one year, the charge will be $5 for the first, $3 for the second, and $2 for the third.

DIPLOMAS

For information concerning teachers' diplomas, see The School of Education.

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[a]Beginning with the class graduating in May, 1924, these totals of hours required for graduation will be increased by 3, and beginning with the class graduating in May, 1925, and thereafter, these totals of hours required for graduation will be increased by 4. These increases will be due to the addition of 2 required credit-hours in Physical Education for men in the Freshman and Sophomore classes beginning with the Freshman class of the year 1920–1921, and to the addition of 2 credits to the Sophomore military requirement beginning with the Sophomore class of the year 1921–1922.

RESIDENCE REQUIREMENT

If a student is in residence at the University for one year only, that year's work must be done in the college from which the degree is expected. The faculty of any college in the University will not recommend for a degree a student unless he has been a regularly registered student in that college for at least one year. Attendance at the summer session is construed as resident study.

THESES

A thesis, if satisfactory, may be offered by each candidate for graduation from any school of the University.

The thesis is intended to give the student an opportunity to make a comparatively independent effort in some chosen field while still under the guidance of some department, and to test his ability for such independent work in a way that cannot be done in connection with ordinary classwork.

It is expected, therefore, that the thesis will show the following characteristics, viz: scientific and literary knowledge and good arrangement and presentation of subject.

In order to insure time for the satisfactory preparation of his thesis, the student will elect and pursue thesis work in some department as he would any regular elective course.

The thesis should be typewritten upon 8½x11 paper and bound in a 9x11¼ flexible backed cover. All maps and drawings or other illustrations should be so arranged that they can be bound within the same cover. Two copies of each thesis accepted for graduation must be placed in the library.

The title-page should conform to the style of the following sample title-page:

The Origin of the English Gilds

A THESIS

SUBMITTED TO THE FACULTY OF THE COLLEGE OF ARTS AND SCIENCE IN CANDIDACY FOR THE DEGREE OF BACHELOR OF ARTS

(Department of History)

By

JOHN EDWARDS SMITH
RENO, NEVADA
1920

GRADUATE COURSES

Admission—Graduates of this University or of other colleges or universities of equal rank are admitted to graduate standing in this University without examination. Admission to graduate study should not be understood as implying admission to candidacy.

Registration—Students wishing to register should present their credentials to the Committee on Admission and Advanced Standing, and if approved a card of admission will be issued to the applicant. When the student has decided in what department he desires to do his major work, he will confer with the head of that department, who, in consultation with the student, will outline the work to be done. The student will then submit the major and minor courses chosen for approval to the Dean of the College in which the work is offered.

Fees—Graduate students pay the same fees as the undergraduates in the various departments of the University.

Degrees Offered—The University offers the following advanced degrees in residence: Master of Arts and Master of Science.

Residence and Candidacy—The student desiring to become a candidate for an advanced degree should file a petition, approved by his major professor, with the Chairman of the Registration Committee, stating the graduate work already done, and setting forth the proposed work to be offered in candidacy for the degree. No graduate student is considered a candidate for any advanced degree unless he has been definitely advanced to candidacy by his major professor and the Registration Committee. At least one semester must elapse between the formal advancement to candidacy for any degree and the conferring of that degree. Actual residence and study, except for graduates of this University, must precede formal advancement. Graduate work done in other universities may be accredited toward an advanced degree at the University of Nevada, but such allowance of credit will not reduce the period of residence. The time of residence for students of this University shall not be less than one semester and for graduates of other universities not less than one year.

Outside Work—Work which has been accepted for the Bachelor's Degree may not be used to meet any of the requirements for the Master's Degree. In general one year

of the student's full time will be necessary to complete the work for a Master's Degree. Candidates for advanced degrees who do not wish to spend more than one year in residence may be allowed to give only a limited amount of time to instruction, laboratory assistance, or other outside work. The amount and nature of this work must be definitely set forth by the student and officially allowed by the Registration Committee. Students doing outside work in excess of the equivalent of two or three units per week will require more than one year to complete the work for a Master's Degree.

Courses of Study—The courses of study shall represent thirty units of graduate work. Graduate courses shall be interpreted as those offered primarily for holders of the Bachelor's Degree. Graduate credit may, however, be given for courses scheduled primarily for Juniors and Seniors. The total number of credits allowed for Junior and Senior courses shall not exceed one-half the total number of credits required for the degree. Any Junior and Senior courses, however, may be counted as "Graduate Courses" if one additional hour without additional credit is devoted to the study of advanced problems connected with the course. At least one-half the work done must represent work done within the major subject, the remaining credits being distributed equally between two minor subjects, except with special approval of the Registration Committee. The work in the major and minor subjects must not be given by the same instructor. No course may count toward the degree except with the approval of the major professor and the Registration Committee.

A thesis shall constitute a part of the prescribed course of study. It should, ordinarily, represent an equivalent of six units and shall have the general form prescribed for the Bachelor's thesis, or shall be a reprint of an article appearing in a reputable periodical. It must be presented to the Registration Committee for their final approval at least two weeks before the date set for the conferring of the degree.

The Master's Degree will be conferred only after an oral examination upon the thesis and in the major and minor subjects, conducted by examiners appointed by the Registration Committee.

In case semester examinations are taken, the grades

received will be averaged with the oral examination and the thesis.

The Degree of Master of Arts is conferred upon students who have received the Degree of Bachelor of Arts; and the Degree of Master of Science upon those who have received the Degree of Bachelor of Science or the Degree of Bachelor of Arts in science groups. The diploma fee for a Master's degree is $5.

ENGINEERING DEGREES

The engineering degrees—Engineer of Mines (E.M.), Mechanical Engineer (M.E.), Civil Engineer (C.E.), and Electrical Engineer (E.E.)—may be conferred upon graduates who have taken corresponding courses in the College of Engineering of the University of Nevada, or upon graduates of other institutions who have obtained the Master of Science degree in engineering from the University of Nevada; who have subsequently been engaged in honorable and successful engineering work in positions of responsibility for a period of at least three years in the case of holders of the B.S. degree, or two years in that of holders of the M.S. degree; and who submit theses showing ability to conduct original engineering work. Theses will not be considered original when they are merely investigations in literature, compilations of routine laboratory tests or presentations of the work of others.

The engineering degrees may also be conferred upon graduates of the College of Engineering of the University of Nevada and upon graduates of other engineering colleges of equal standing, who, after graduation, have been engaged for a period of at least one year in honorable and successful engineering work in a position of responsibility, and who subsequently complete successfully one year of graduate work in engineering, including thesis, at the University of Nevada. Graduates of other institutions must include in their graduate work any subjects in the corresponding undergraduate curricula which are required by the College of Engineering of the University of Nevada, but whose equivalents were lacking in their undergraduate courses.

Formal application for an engineering degree must be filed with the Registrar not later than the beginning of the second semester of the year in which the degree is sought, and approved in turn by the Engineering Faculty and the

Registration Committee. The application must be accompanied by detailed and satisfactory evidence as to the extent and character of the applicant's professional work. The thesis shall have the general form prescribed for the Bachelor's thesis, or shall be a reprint of an article appearing in a reputable magazine. In the case of a nonresident applicant, it shall be presented to the Engineering Faculty for final approval and transmission to the Registration Committee (for recommendation to the University Faculty) at least eight weeks before the date set for conferring the degree. The diploma fee for an engineering degree is $5.

THE COLLEGE OF ARTS AND SCIENCE

THE COLLEGE OF ARTS AND SCIENCE

FACULTY

WALTER E. CLARK, Ph.D., LL.D., President of the University.
MAXWELL ADAMS, Ph.D., Dean of the College of Arts and Science; Professor of Chemistry.
ROBERT LEWERS, Professor of Business Administration.
JAMES EDWARD CHURCH, JR., Ph.D., Professor of the Classics.
JEANNE ELIZABETH WIER, A.B., Professor of History.
PETER FRANDSEN, A.M., Professor of Biology.
HERBERT WYNFORD HILL, Ph.D., Professor of English.
LEON WILSON HARTMAN, Ph.D., Professor of Physics.
CHARLES HASEMAN, Ph.D., Professor of Mathematics and Mechanics.
REUBEN CYRIL THOMPSON, A.M., Professor of Philosophy.
J CLAUDE JONES, A.B., Professor of Geology and Mineralogy.
WALTER S. PALMER, E.M., Professor of Metallurgy.
ALBERT ELLSWORTH HILL, A.B., Professor of English.
JAMES REED YOUNG, Ph.D., Professor of Psychology.
Colonel JOHN PAUL RYAN, Professor of Military Science and Tactics.
JOHN WILLIAM HALL, A.M., Professor of Education.
SARAH LOUISE LEWIS, B.S., Professor of Home Economics.
BENJAMIN F. SCHAPPELLE, Ph.D., Professor of Romanic Languages.
KATHERINE LEWERS, Associate Professor of Freehand Drawing and Art.
KATHARINE RIEGELHUTH, A.M., Associate Professor of German.
ELSIE SAMETH, B.S., Associate Professor of Physical Education for Women.
ARCHIBALD EDWARDS TURNER, A.B., Associate Professor of Oral English.
JAMES A. NYSWANDER, B.S., Associate Professor of Mathematics and Mechanics.
GEORGE WALLACE SEARS, Ph.D., Associate Professor of Chemistry.
RAYMOND O. COURTRIGHT, B.A., Associate Professor of Physical Education for Men.
FRED W. TRANER, M.A., Associate Professor of Education.
SIDNEY WARREN WILCOX, B.L., Associate Professor of Economics and Sociology.
SILAS CALVIN FEEMSTER, A.M., Assistant Professor of History.
MARGARET ELIZABETH MACK, A.M., Assistant Professor of Biology.
CYRUS W. LANTZ, A.M., Assistant Professor of Botany and Horticulture.
GILBERT BRUCE BLAIR, A.M., Assistant Professor of Physics.
JESSIE P. POPE, B.S., Assistant Professor of Home Economics.
JOHN F. G. HICKS, Ph.D., Assistant Professor of Chemistry.
WILL C. STEINBRUNN, A.M., Assistant Professor of Romanic Languages.
CHARLES LEROY BROWN, A.M., Instructor in Biology.
CATHARINE FRANCES SOMERS, A.B., Instructor in Physical Education for Women.
EMMA CAROLINE DIEHM, Instructor in Music.
CHARLES B. WILLIAMS, Instructor in Physical Education for Men.
M. JULIA DETRAZ, A.M., Instructor in Education.

AIM

The aim of the College of Arts and Science is twofold:

1. To lay a foundation for the professions, both learned and technical, and
2. To increase knowledge in and sympathy with the broader and cultural aspects of life.

ADMISSION REQUIREMENTS

For admission requirements, entrance subjects and the number of credits belonging to each, see page 82.

REQUIREMENTS FOR A BACCALAUREATE DEGREE IN ARTS AND SCIENCE

In order to be recommended for the Degree of Bachelor of Arts[1] a candidate must, first, have satisfied the requirements for admission; and, second, have gained credits in prescribed and elective courses aggregating 124[2] semester units. These units are to be distributed as follows:

FRESHMAN AND SOPHOMORE REQUIREMENTS

Freshman Year

First Semester	*Units*	*Second Semester*	*Units*
English Composition and Rhetoric	3	English Composition and Rhetoric	3
(1) Foreign Language	3 or 4	Foreign Language	3 or 4
(2) Social Science	3	Social Science	3
Physics, Chemistry, Biology, or Mathematics	3 or 4	Physics, Chemistry, Biology, or Mathematics	3 or 4
Hygiene	1	Hygiene 1	1
Military and Physical Education	1–2	Military and Physical Education	1–2
Elective	0–2	Elective	0–2

Sophomore Year

First Semester	*Units*	*Second Semester*	*Units*
English Literature	2	English Literature	2
(1) Foreign Language	3	Foreign Language	3
(2) Social Science	3	Social Science	3
Natural Science or Mathematics	2 to 4	Natural Science or Mathematics	2 to 4
Military and Physical Education	½ to 2½	Military and Physical Education	½ to 2½
Elective	3 to 5	Elective	3 to 5

In case of 4 units entrance in one foreign language, 2 units in each of two, or 3 units in one and 1 in another, one year in college in advanced work in one of these languages will suffice. Otherwise two years in college shall be in the same language.

The Social Science Group shall include: History 1–2, 3–4, Economics 5, 1–2, Political Science 1–2, Psychology 2, 5, Philosophy 7, 8, 21, 22, History of Education 61.

The Social Science requirement in the Freshman year may, in the case of Business Administration students, with the consent of the Dean, be deferred till the Sophomore year.

[1]Students who have majored in Mathematics or Science may, on petition to the Faculty, be granted the Degree of Bachelor of Science.

[2]See foot-note, page 94, for variations in graduation requirements.

The Social Science requirement in the Freshman year may, in the case of premedical students, with the consent of the Dean, be deferred until the Sophomore or Junior year.

No subject with the number 50 or more will be open to Freshmen or Sophomores without the permission of the Dean.

The Freshman requirement in Social Science may be satisfied by 6 units of history, 6 of philosophy, or 3 units from each of any two of philosophy, psychology, and economics.

The Sophomore requirement in Social Science may be fulfilled by 6 units from any one of the following: History, economics, political science, psychology, philosophy, and history of education (it being understood, for the purposes of this elective, that history and political science are different departments for the year 1921–1922). No more than 6 units in the first two years' Social Science requirements may be taken in any one department.

The professors concerned may repeat their courses if they desire, but the Freshman course in Economics (Introduction to Social Science) must be offered in the first semester and the Freshman Psychology in the second semester.

The new required work for Freshmen and Sophomores shall apply to the Freshman class entering in September, 1921, and to all successive classes.

Students transferring to Arts and Science from other institutions and from other colleges in the University of Nevada must meet the above Freshman and Sophomore requirements.

Courses given primarily in other colleges of the University may be taken by Arts and Science students, but not to exceed twenty units of such work shall be counted for Arts and Science Degrees.

JUNIOR AND SENIOR REQUIREMENTS

Candidates for a Baccalaureate Degree must select courses in a group of departments consisting of a major and one or two correlated minors, the total aggregating not fewer than thirty hours of work designed primarily for Juniors and Seniors. Subject to the requirement of correlation, the group may be chosen from any department in the College of Arts and Science. The combined work of the two or three departments should represent a unity of aim. The particular grouping, however, will depend upon the particular aim of the student. For example, a student making some one language his major may find it desirable to elect a considerable

amount of History. A student planning to study medicine should elect a major in Biology or Chemistry, but may find it desirable to take additional work in Physics. Those intending to study law, should elect a major in Political Science or Economics, but may find it desirable to take advanced work in English. Students taking a Science major will generally find it profitable to have a good reading knowledge of French and German.

The foregoing directions must be regarded as general in nature; any grouping of major and minor subjects showing an intelligent purpose will be approved.

The specific requirements for majors and minors in the different departments will be found in the description of courses of study under their respective heads in the courses of instruction.

It is advisable that students should plan their work for the Junior and Senior years as early as the Sophomore year, in order that the studies then elected may fit in with their later work. At the beginning of the Junior year, each student must give the Dean written notice of his selection of major and minor departments; such selection should bear the approval of the instructors concerned.

Any student after electing his major and minor departments may, with the consent of the department concerned and of the Dean, change his major department or major and minor departments, as the case may be, provided he complies with all the requirements in the case of the new major and minor departments.

The remaining units necessary to make a total of 124[1] may be freely elected from any department, or, subject to the limit of twenty units named above, from the other colleges of the University.

THE TEACHER'S HIGH-SCHOOL DIPLOMA

For the requirements for a Teacher's High-School Diploma, see page 95 and the Courses of Instruction.

PREMEDICAL COURSES

The requirements for admission to Class A medical colleges vary from a minimum of two years of standard college work to the possession of a Bachelor's degree. Students contemplating studying medicine should communicate early in their

[1]For class entering in 1921, 123 hours for women and 130 hours for men, including Military Science and Physical Education, will be required.

undergraduate course with the Dean of the particular medical college they may wish to enter in order to learn the exact entrance requirements at the time they expect to enter. Practically all medical colleges prescribe the same minimum of subject-matter which includes general zoology, vertebrate anatomy, embryology, general inorganic chemistry, qualitative analysis, organic chemistry, general physics, and a reading knowledge of French or German. Quantitative analysis is also required by some and advised by others. In general, the first two years in the University of Nevada should include the following courses: English 1–2, French 1–2 or German 1–2, French 3–4 or German 3–4 or 10–11, Zoology 1, Zoology 9, Zoology 64, Physics 1–2, Chemistry 5–7 and 6–4 and 51–52.

The University will confer the degree of Bachelor of Arts upon any student of high rank who, after completing three years of approved work in this University, shall enter a medical school rated Class A by the American Medical Association, and shall complete worthily one year's work in such medical school. In order to receive the degree in this way, the student must, at the end of his first year in the medical school, present a signed testimonial from the Dean of the medical school to the Dean of the College of Arts and Science, such testimonial to include a statement of courses taken, grades achieved, and a recommendation that the degree be granted.

For further advice relative to this work, the student is referred to Professor Frandsen, who is designated adviser of premedical students.

PRELEGAL COURSES

Students who purpose to study law should elect their college work in such a way as to comply with the requirements and recommendations of the better law schools. Such requirements or recommendations usually embrace: (1) fundamental courses in English; (2) the study of at least one foreign language, preferably Latin; (3) some work in mathematics or logic, or both; and (4) a considerable number of selected courses in the social sciences. The following recommended course is based on the requirements and recommendations of a few of the more accessible law schools of high standing, and it is believed that it will satisfy the requirements of law schools generally. Students will sometimes find it advantageous to deviate from this course, and in such

cases they should consult Professor Sidney W. Wilcox, who is designated as adviser of prelegal students.

Freshman Year:
1. English.
2. Mathematics.
3. History.
4. Foreign Language, Latin preferred.
5. Elective.

Sophomore Year:
1. English.
2. History (American).
3. Foreign Language (continuation).
4. Economics or Political Science.
5. Elective.

Junior Year:
1. History (Eng. Const.).
2. Economics.
3. Political Science.
4. Business Administration.
5. Elective.

Certain law schools admit students upon the completion of three years of college work. The University will confer the degree of Bachelor of Arts upon any student of high rank who, after completing three years of approved work in this University, shall enter a law school of approved standing and shall complete worthily one year's work in such law school. (A student of high rank is one who stands above the average of his class.) In order to receive the degree in this way the student must, at the end of his first year in the law school, present a signed testimonial from the Dean of the law school to the Dean of the College of Arts and Science, such testimonial to include a statement of courses taken, grades achieved, and a recommendation that the degree be granted.

THE MASTER'S DEGREE IN ARTS AND SCIENCE

For requirements for the Master's Degree, see page 94.

THE SCHOOL OF EDUCATION AND THE NEVADA STATE NORMAL SCHOOL

THE SCHOOL OF EDUCATION AND THE NEVADA STATE NORMAL SCHOOL

FACULTY

WALTER E. CLARK, Ph.D., LL.D., President of the University.

JOHN W. HALL, M.A., Dean of the School of Education; Professor of Education.

ALBERT ELLSWORTH HILL, A.B., Professor of English.

JAMES REED YOUNG, Ph.D., Professor of Psychology.

SARAH LOUISE LEWIS, B.S., Professor of Home Economics.

KATHERINE LEWERS, Associate Professor of Freehand Drawing and Art.

ELSIE SAMETH, B.S., Associate Professor of Physical Education for Women.

FRED W. TRANER, A.M., Associate Professor of Education.

MARGARET ELIZABETH MACK, A.M., Assistant Professor of Biology.

JESSIE P. POPE, B.S., Assistant Professor of Home Economics.

EMMA C. DIEHM, Instructor in Music.

M. JULIA DETRAZ, M.A., Instructor in Education.

SYLVIA CAMPIGLIA, B.S., State Supervisor of Vocational Education.

B. D. BILLINGHURST, A.B., LL.B., Lecturer in Education.

COOPERATING

High-School Teachers, assisting in special methods and practice—

AGNES BELL, A.B., Teacher of French and Spanish.

EUNICE A. CAGWIN, A.B., Teacher of English.

MYRTLE FOSTER, Teacher of Art.

ALICE FOXWELL, A.B., Teacher of English.

MAYE GONTERMAN, A.B., Teacher of Domestic Science.

SYLVIA LANGFORD, A.B., Teacher of Latin.

ANNA F. LOOMIS, A.B., Teacher of Spanish.

INA V. MEREDITH, A.B., Teacher of Geometry and Algebra.

FRANK H. PALMER, A.B., Teacher of American History.

HARRIETT H. WHITE, A.B., Teacher of English.

BETTY M. WESTPHAL, A.B., Teacher of English.

Elementary-School Teachers (to be selected) assisting in special methods and practice.

Appointment Committee for Teachers—JOHN W. HALL, F. W. TRANER, M. JULIA DETRAZ.

The Nevada State Normal School was established as an integral part of the University of Nevada by an Act of the Legislature approved February 7, 1887. The first session was in the academic year 1887–1888. In the fall of 1920 it took

took up its work in the finely equipped new Education Building. The connection of the Normal School with the other departments of the University gives it certain advantages. Its students enjoy the same rights and privileges of those enrolled in any other school or college of the University. Their association with those students who are pursuing four-year courses gives them greater breadth of view and higher ideals. Its students and graduates, if they satisfy the requirements for admission to any other school or college of the University, may become candidates for the University degrees. Subject only to the provisions that they meet the specific requirements of the college which they enter, they are given full credit in any of the Colleges of the University for the work they have done in the Normal School.

AIM

The aim of the Normal School is to give adequate preparation and training to those students of the University who wish to teach in the public schools of the State. To achieve this purpose, thoroughgoing courses in the theory and practice of teaching and in academic subjects are offered for those who are preparing to teach in the elementary schools. The School of Education will recommend no student or graduate for any teaching position who is seriously deficient in the subject-matter to be taught.

ADMISSION REQUIREMENTS

For admission requirements, entrance subjects, and the number of units belonging to each, see pages 82–83.

TEACHERS' ELEMENTARY DIPLOMAS

First-Grade Certificates

Students who satisfy the admission requirements and complete both years of the curriculum outlined following will be granted diplomas entitling them to first-grade elementary certificates from the State Board of Education. These give the holders the right to teach, without examination, for five years in any of the elementary schools of the State. On evidence of successful teaching for not less than forty-five months, the State Board of Education will grant the holders first-grade elementary certificates valid for life.

Second-Grade Certificates

Students who, for financial or other reasons, cannot continue their studies for two years, may, upon satisfying the

requirements for admission, and completing one year of the two-year course, be granted diplomas entitling them to second-grade elementary certificates from the State Board of Education. These give the holders the right to teach, without examination, for three years in any of the elementary schools of the State. At the expiration of the time for which they are valid, these certificates cannot be renewed. If holders wish to continue teaching, they must either complete the requirements of the two-year course of study, or pass the state examination for a first-grade certificate.

COURSE OF STUDY

FIRST YEAR	*First Semester*	*Second Semester*
Principles of Teaching (Education 20)	....	3
The Teaching of Arithmetic (Education 31)	3	....
The Teaching of English (Education 34)	....	3
The Teaching of Geography (Education 37)	3	....
Problems in Rural Education (Education 23)	2	....
Observation of Teaching (Education 25)	1	....
Practice Teaching and Conferences (Education 28)	....	5
Biology 1–2 (Nature Study)	2	2
Music 1–2	1	1
Art 1–2	1	1
Physical Education 1–2	1	1
General Home Economics (Home Economics 9)	3	....
Totals	17	16

SECOND YEAR		
General Psychology (Psychology 5)	3	....
Psychology of Childhood (Psychology 8)	....	2
The Teaching of English (Education 35)	3	....
The Teaching of History and Civics (Education 42)	....	3
Practice Teaching and Conferences (Education 29)	5	....
School Management, Law, and Hygiene (Education 24)	....	1
Music 5	2	....
Art 8	....	1
Physical Education 10	....	1
Composition and Rhetoric (English 1–2)	3	3
Social Ethics (Philosophy 28)	....	2
Hygiene	....	2
Kindergarten Methods (Education 41)	....	1
Educational Tests and Measurements (Education 48)	....	1
Totals	16	17

Graduates of the Nevada County Normal-Training Schools are admitted to the second year of the course, and can ordinarily complete their work in one year.

SCHOOL OF EDUCATION

The School of Education is included as a division of the College of Arts and Science, but with its own Dean, and direct affiliations with the Colleges of Agriculture and Engineering in cooperative work in the training of teachers. It offers a liberal and professional course of study of four years to prospective secondary-school teachers and to those stu-

dents looking forward to supervisory and administrative positions in the schools of Nevada. At the end of this time successful candidates are granted a Bachelor's degree and a University teacher's diploma, the latter giving title to a teacher's first-grade high-school certificate. On evidence later of at least forty-five months of successful teaching, this certificate is exchangeable to the State Board of Education for a life diploma.

The degree of Bachelor of Arts is granted on the completion of prescribed and elective courses aggregating 123 semester units,[1] which may be distributed so as to prepare the student for efficient high-school teaching in one or two subjects.

The University teacher's diploma is granted to graduates of the four-year course on the following conditions:

1. Candidates in the regular academic departments are required to take 18 hours of professional work, distributed as follows: Psychology 5(3 hours), Psychology 10(2 hours), Education 60 (3 hours), Education 61 (2 hours), Education 63 (1 hour), Education 71(3 hours), Education 75(2 hours), Education 76 (2 hours).

2. Recommendation of the candidate's major and minor departments and the School of Education.

3. The securing of credits in at least two of the high-school subjects sufficient to make a major and at least one minor.

Candidates for the teacher's certificate in Agriculture, Home Economics or trades are required to take 14 to 15 hours of professional work to be approved by the Dean of the School of Education.

Arrangements have been made with the Reno public schools whereby prospective teachers in high school may have adequate teaching under normal conditions. Members of the high-school faculty and of the School of Education will cooperate in the supervision of this work.

All candidates for the teacher's diploma should confer with the Dean of the School of Education at the beginning of the Sophomore year, as it is highly desirable that they begin their professional studies at that time. Failure to do this will limit the opportunity for choice in advanced academic courses.

[1]For men this becomes 126 units for the class graduating in 1924 and 128 units for the class graduating in 1925 by reason of the added requirement of Physical Education for Men.

THE COLLEGE OF ENGINEERING

1. THE MACKAY SCHOOL OF MINES
2. THE SCHOOL OF MECHANICAL ENGINEERING
3. THE SCHOOL OF ELECTRICAL ENGINEERING
4. THE SCHOOL OF CIVIL ENGINEERING

THE COLLEGE OF ENGINEERING

FACULTY

WALTER E. CLARK, Ph.D., LL.D., President of the University.

FREDERICK H. SIBLEY, M.E., Dean of the College of Engineering; Professor of Mechanical Engineering.

FRANCIS CHURCH LINCOLN, Ph.D., Director, Mackay School of Mines; Professor of Mining.

ROBERT LEWERS, Professor of Business Administration.

MAXWELL ADAMS, Ph.D., Professor of Chemistry.

HERBERT WYNFORD HILL, Ph.D., Professor of English.

HORACE PRENTISS BOARDMAN, C.E., Professor of Civil Engineering.

LEON WILSON HARTMAN, Ph.D., Professor of Physics.

CHARLES HASEMAN, Ph.D., Professor of Mathematics and Mechanics.

J CLAUDE JONES, A.B., Professor of Geology and Mineralogy.

WALTER S. PALMER, E.M., Professor of Metallurgy.

ALBERT ELLSWORTH HILL, A.B., Professor of English.

Colonel JOHN PAUL RYAN, Professor of Military Science and Tactics.

STANLEY G. PALMER, M.E., Professor of Electrical Engineering.

KATHERINE LEWERS, Associate Professor of Freehand Drawing.

ARCHIBALD EDWARDS TURNER, A.B., Associate Professor of Oral English.

JAMES A. NYSWANDER, B.S., Associate Professor of Mathematics and Mechanics.

GEORGE WALLACE SEARS, Ph.D., Associate Professor of Chemistry.

RAYMOND ORLANDO COURTRIGHT, B.A., Associate Professor of Physical Education for Men.

ALBERT WILLIAM PRESTON, Assistant Professor of Mechanical Engineering.

CLIFTON ROY HILL, C.E., Assistant Professor of Civil Engineering.

GILBERT BRUCE BLAIR, A.M., Assistant Professor of Physics.

CLARENCE H. KENT, B.S., Instructor in Mechanical Engineering.

CHARLES B. WILLIAMS, Instructor in Physical Education for Men.

AIM

The aim of the College of Engineering is to give young men a knowledge of those subjects which form the basis of the Mining, Mechanical, Electrical, and Civil Engineering professions. The technical courses of study are arranged and directed with the purpose of preparing students not only for immediate usefulness but also for future professional growth. The work is in the form of both lectures and recitations, supplemented by exercises in the drafting-room, field, laboratory, and shop.

EQUIPMENT

For a general description of the equipment of the College of Engineering, see Mackay School of Mines, Mechanical Building, Electrical Building, Chemistry Building, laboratories for geology and mineralogy, laboratories of the mining department, Mining and Geological Museum, and the chemical laboratories, in the earlier part of this catalogue.

ADMISSION REQUIREMENTS

For admission requirements, entrance subjects, and the number of credits belonging to each, see page 82.

REQUIREMENTS FOR A BACCALAUREATE DEGREE IN ENGINEERING

(1) The Degree of Bachelor of Science in Mining is conferred upon students who have satisfactorily completed the full course of study in the School of Mines; (2) the Degree of Bachelor of Science in Mechanical or Electrical Engineering, upon students who have satisfactorily completed the full course of study in the School of Mechanical or Electrical Engineering; (3) the Degree of Bachelor of Science in Civil Engineering, upon students who have satisfactorily completed the course of study in the School of Civil Engineering.

In all the schools, however, the requirement of four units in Military Science and four units in Physical Education for Men must be met.

THE DEGREES OF MINING, MECHANICAL, ELECTRICAL, AND CIVIL ENGINEER

For the requirements for the Degrees of Mining, Mechanical, Electrical, and Civil Engineering, see page 99.

SCHOOL OF MINES

COURSES OF STUDY

Freshman Year—First Semester		LAB.	LEC.
English 1	Composition and Rhetoric	..	3
Chemistry 5 and 7	General Inorganic Chemistry	1	2
Mathematics 11	Advanced Algebra	..	2
Mathematics 12	Plane Trigonometry	..	3
Mechanical Engineering 2	Elementary Mechanical Drawing	2	..
Mineralogy 3	Descriptive Mineralogy	..	2
Mineralogy 1	Determinative Mineralogy	2	..
Hygiene 1	Personal Hygiene	..	1
			18

Freshman Year—Second Semester			
English 2	Composition and Rhetoric	..	3
Chemistry 6	General Inorganic Chemistry	..	2
Chemistry 4	Qualitative Analysis	3	..
Mathematics 13	Analytic Geometry	..	3
Mechanical Engineering 6	Descriptive Geometry	3	..
Mineralogy 2	Blowpipe Analysis	2	..
Mining 1	Introduction to Mining	..	1
Hygiene 2	Personal Hygiene	..	1
			18

		LAB.	LEC.
	Summer Work		
Mining 5	Practical Mining	Four Weeks	
	Sophomore Year—First Semester		
Chemistry 9	Quantitative Analysis	3	..
Mathematics 25	Differential Calculus	..	5
Physics 3	General Physics for Engineers	..	5
Physics 5	Physical Measurements	2	..
Geology 3	General Geology	..	3
			18
	Sophomore Year—Second Semester		
Chemistry 10	Quantitative Analysis	3	..
Mathematics 26	Integral Calculus	..	3
Physics 4	General Physics for Engineers	..	5
Physics 6	Physical Measurements	2	..
Geology 4	Historical Geology	..	3
Economics 4	Introduction to Economics	..	2
			18
	Junior Year—First Semester		
Mining 51	Excavation	..	3
Metallurgy 51	Fire Assaying	3	2
Geology 51	Petrology	1	1
Mathematics 55	Analytic Mechanics	..	5
Civil Engineering 51	Surveying	..	2
Civil Engineering 52	Surveying Laboratory	2	..
			19
	Junior Year—Second Semester		
Mining 52	Mine Plant	..	3
Metallurgy 55	General Metallurgy	..	3
Geology 60	Economic Geology	..	3
Geology 52	Petrographic Laboratory	2	..
Mining 60	Junior Mining Trip	0	..
Civil Engineering 53	Surveying	..	2
Civil Engineering 54	Surveying Laboratory	2	..
Civil Engineering 90	Hydraulics	..	3
			18
	Summer School		
Civil Engineering 58	Mine Surveying	Four Weeks	
Geology 71	Field Geology	Two Weeks	
	Senior Year—First Semester		
Mining 61	Mining Methods	..	3
Metallurgy 60	Metallurgy of Copper, Lead, Zinc	..	3
Metallurgy 65	Ore Dressing	2	2
Civil Engineering 71	Resistance of Materials	..	2
Electrical Engineering 59	Principles and Practice of Electrical Eng	..	2
Electrical Engineering 60	Electrical Engineering Laboratory	1	..
Elective		..	3
			18
	Senior Year—Second Semester		
Mining 65	Mine Rescue and First Aid	0	0
Mining 72	Economics of Mining	..	3
Mining 80	Senior Mining Trip	0	..
Metallurgy 70	Metallurgy of Gold and Silver	2	3
Civil Engineering 72	Testing Materials	1	..
Mechanical Engineering 67	Steam and Gas Power	..	2
Mechanical Engineering 68	Mechanical Laboratory	1	..
Elective		..	5
			17

PROSPECTORS SHORT COURSE

A short course for prospectors was established in 1915. This course is designed to aid the prospectors of Nevada, but is open to residents of other States. For a description of the work and other information concerning the Prospectors Short Course, see "Short Courses."

SCHOOL OF MECHANICAL ENGINEERING

Freshman Year—First Semester		LAB.	LEC.
English 1	Composition and Rhetoric	..	3
Chemistry 5 and 7	General Inorganic Chemistry	1	2
Mathematics 11	Advanced Algebra	..	2
Mathematics 12	Plane Trigonometry	..	3
Mechanic Arts 1	Wood Shop	2	..
Mechanical Engineering 2	Elementary Mechanical Drawing	2	..
Mechanical Engineering 3	Freehand Drawing	2	..
Hygiene 1	Personal Hygiene	..	1
			18

Freshman Year—Second Semester			
English 2	Composition and Rhetoric	..	3
Chemistry 6	General Inorganic Chemistry	..	2
Chemistry 4	Qualitative Analysis	3	..
Mathematics 13	Analytic Geometry	..	3
Mechanic Arts 2	Forging	2	..
Mechanic Arts 6	Pattern Making	1	..
Mechanical Engineering 6	Descriptive Geometry	3	..
Hygiene 2	Personal Hygiene	..	1
			18

Sophomore Year—First Semester			
Mechanic Arts 3	Machine Shop	2	..
Physics 3	General Physics for Engineers	..	5
Physics 5	Physical Measurements	2	..
Mathematics 25	Differential Calculus	..	5
Mechanical Engineering 5	Kinematics	..	3
Technical Report		1	..
			18

Sophomore Year—Second Semester			
Mechanic Arts 3	Machine Shop	2	..
Physics 4	General Physics for Engineers	..	5
Physics 6	Physical Measurements	2	..
Mathematics 26	Integral Calculus	..	3
Mechanic Arts 4	Foundry	1	..
Metallurgy 55	General Metallurgy	..	3
Economics 4	Introduction to Economics	..	2
			18

Junior Year—First Semester			
Electrical Engineering 51	Direct-Current Machinery	..	3
Electrical Engineering 61	Electrical Engineering Laboratory	1	1
Mechanical Engineering 54	Boilers and Engines	..	3
Mathematics 55	Analytic Mechanics	..	5
Civil Engineering 69	Graphic Statics	1	..
Civil Engineering 51 and 52	Elementary Surveying and Plotting	2	2
			18

Junior Year—Second Semester		LAB.	LEC.
Electrical Engineering 52	Alternating-Current Machinery	..	3
Electrical Engineering 62	Electrical Engineering Laboratory	1	1
Mechanical Engineering 53	Machine Design	..	3
Civil Engineering 74	Strength of Materials	..	5
Civil Engineering 72	Testing Materials	1	..
Civil Engineering 90	Hydraulics	..	3
Mechanical Engineering 64	Mechanical Laboratory	1	..
			18

Senior Year—First Semester			
Mechanical Engineering 55	Thermodynamics	..	3
Mechanical Engineering 58	Mechanics of Heat Engines	..	3
Mechanical Engineering 65	Mechanical Laboratory	3	..
Civil Engineering 67	Engineering Economics	..	2
Civil Engineering 75	Theory of Structures	..	2
Elective		..	5
			18

Senior Year—Second Semester			
Mechanical Engineering 56	Thermodynamics	..	3
Mechanical Engineering 66	Mechanical Laboratory	3	..
Mechanical Engineering 80	Thesis	3	..
Psychology 5	General Psychology	..	3
Civil Engineering 78	Structural Design	2	..
Elective		..	4
			18

SCHOOL OF ELECTRICAL ENGINEERING

Freshman Year—First Semester			
English 1	Composition and Rhetoric	..	3
Chemistry 5 and 7	General Inorganic Chemistry	1	2
Mathematics 11 and 12	Advanced Algebra and Plane Trigonometry	..	5
Mechanic Arts 1	Wood Work	2	..
Mechanic Arts 2	Forging	1	..
Mechanical Engineering 2	Elementary Mechanical Drawing	2	..
Mechanical Engineering 3	Freehand Drawing	1	..
Hygiene 1	Personal Hygiene	..	1
			18

Freshman Year—Second Semester			
English 2	Composition and Rhetoric	..	3
Chemistry 4 and 6	Qualitative Analysis and General Inorganic	3	2
Mathematics 13	Analytic Geometry	..	3
Mechanic Arts 4	Foundry Practice	1	..
Mechanical Engineering 6	Descriptive Geometry	3	..
Hygiene 2	Personal Hygiene	..	1
Elective		..	2
			18

Sophomore Year—First Semester			
Mechanic Arts 3	Machine Work	2	..
Physics 3 and 5	General Physics and Physical Measurements	2	5
Mathematics 25	Differential Calculus	..	5
Mechanical Engineering 5	Kinematics	3	..
Elective		..	1
			18

Sophomore Year—Second Semester

		LAB.	LEC.
Mechanic Arts 3	Machine Work	2	..
Physics 4 and 6	General Physics and Physical Measurements	2	5
Mathematics 26	Integral Calculus	..	3
Metallurgy 55	General Metallurgy	..	3
Elective		..	3
			18

Junior Year—First Semester

Electrical Engineering 51	Direct-Current Machinery	..	3
Electrical Engineering 61	Electrical Engineering Laboratory	1	1
Mechanical Engineering 54	Engines and Boilers	..	3
Mathematics 55	Analytic Mechanics	..	5
Civil Engineering 51 and 52	Elementary Surveying and Plotting	2	2
Elective		..	1
			18

Junior Year—Second Semester

Electrical Engineering 52	Alternating-Current Machinery	..	3
Electrical Engifleering 62	Electrical Engineering Laboratory	1	1
Mechanical Engineering 63	Machine Design	2	1
Mechanical Engineering 64	Mechanical Engineering Laboratory	1	..
Civil Engineering 90	Hydraulics	..	3
Economics 4	Introduction to Economics	..	2
Elective		..	4
			18

Senior Year—First Semester

Mechanical Engineering 55	Thermodynamics	..	3
Mechanical Engineering 65	Mechanical Engineering Laboratory	2	..
Electrical Engineering 53	Advanced Alternating Currents	..	3
Electrical Engineering 55	Electrical Problems	2	..
Electrical Engineering 63	Electrical Engineering Laboratory	2	1
Civil Engineering 71	Resistance of Materials	..	2
Physics 57	Electrical Measurements	2	..
Elective		..	1
			18

Senior Year—Second Semester

Mechanical Engineering 56	Thermodynamics	..	3
Mechanical Engineering 66	Mechanical Engineering Laboratory	2	..
Electrical Engineering 56	Electrical Problems	1	..
Electrical Engineering 58	Electrical Design	2	1
Electrical Engineering 64	Electrical Engineering Laboratory	2	1
Civil Engineering 72	Testing Materials Laboratory	1	..
Elective		..	5
			18

SCHOOL OF CIVIL ENGINEERING

Freshman Year—First Semester

English 1	Composition and Rhetoric	..	3
Chemistry 5 and 7	General Inorganic Chemistry	1	2
Mathematics 11	Advanced Algebra	..	2
Mathematics 12	Plane Trigonometry	..	3
Mechanical Engineering 2	Elementary Mechanical Drawing	2	..
Mechanical Engineering 3	Freehand Drawing	2	..
Hygiene 1	Personal Hygiene	..	1
Elective		..	2
			18

Freshman Year—Second Semester		LAB.	LEC.
English 2	Composition and Rhetoric	..	3
Chemistry 6	General Inorganic Chemistry	..	2
Chemistry 4	Qualitative Analysis	3	..
Mathematics 13	Analytic Geometry	..	3
Civil Engineering 8	Elements of Civil Engineering	..	2
Mechanical Engineering 6	Descriptive Geometry	3	..
Hygiene 2	Personal Hygiene	..	1
Elective		..	1
			18

Sophomore Year—First Semester			
Mathematics 25	Differential Calculus	..	5
Physics 1	General Physics	1	3
Mineralogy 1	Determinative Mineralogy	2	..
Geology 3	General Geology	..	3
Civil Engineering 51 and 52	Elementary Surveying	2	2
			18

Sophomore Year—Second Semester			
Mathematics 26	Integral Calculus	..	3
Physics 2	General Physics	1	3
Geology 4	Historical Geology	..	3
Civil Engineering 20	Technical Report	1	..
Civil Engineering 53 and 54	Advanced Surveying	2	2
Mechanical Engineering 67,68	Mech. Lab. and Steam and Gas Power	1	2
Elective		..	2
			18

Junior Year—First Semester			
Civil Engineering 55	Foundations and Substructures	1	2
Civil Engineering 63 and 64	Railroad Engineering	2	3
Civil Engineering 69	Graphic Statics	..	1
Civil Engineering 75	Theory of Structures	..	2
Mathematics 55	Analytic Mechanics	..	5
Elective		..	2
			18

Junior Year—Second Semester			
Civil Engineering 72	Testing of Materials	1	..
Civil Engineering 74	Mechanics of Materials	..	5
Civil Engineering 90	Hydraulics	..	3
Civil Engineering 76	Theory of Structures	..	2
Metallurgy 55	General Metallurgy	..	3
Economics 4	Introduction to Economics	..	2
Elective		..	2
			18

Senior Year—First Semester			
Civil Engineering 67	Engineering Economics	..	2
Civil Engineering 77	Structural Design	3	..
Civil Engineering 85	Reinforced Concrete	2	2
Electrical Engineering 59,60	Principles and Practice of Electrical Eng.	1	2
Civil Engineering 94	Irrigation Engineering	1	2
Elective		..	3
			18

Senior Year—Second Semester			
Civil Engineering 78	Structural Design	3	..
Civil Engineering 92	Sewerage	..	3
Civil Engineering 93	Public Water Supply	..	2
Civil Engineering 86	Reinforced Concrete	2	..
Civil Engineering 99	Engineering Problems	2	..
or	or		
Civil Engineering 100	Thesis	..	..
Psychology 5	General Psychology	..	3
Elective		..	3
			18

THE COLLEGE OF AGRICULTURE

1. THE SCHOOL OF AGRICULTURE
2. THE SCHOOL OF HOME ECONOMICS
3. SHORT COURSES

THE COLLEGE OF AGRICULTURE

FACULTY

WALTER E. CLARK, Ph.D., LL.D., President of the University.

ROBERT STEWART, Ph.D., Dean of the College of Agriculture; Professor of Agronomy.

ROBERT LEWERS, Professor of Business Administration.

PETER FRANDSEN, A.M., Professor of Biology.

MAXWELL ADAMS, Ph.D., Professor of Chemistry.

HERBERT WYNFORD HILL, Ph.D., Professor of English.

HORACE PRENTISS BOARDMAN, C.E., Professor of Civil Engineering.

LEON WILSON HARTMAN, Ph.D., Professor of Physics.

CHARLES HASEMAN, Ph.D., Professor of Mathematics and Mechanics.

FREDERICK WESTON WILSON, M.S., Professor of Animal Husbandry.

ALBERT ELLSWORTH HILL, A.B., Professor of English.

Colonel JOHN PAUL RYAN, Professor of Military Science and Tactics.

STANLEY GUSTAVUS PALMER, M.E., Professor of Electrical Engineering.

VERNER E. SCOTT, B.S., Professor of Dairying.

SARAH L. LEWIS, B.S., Professor of Home Economics.

KATHERINE LEWERS, Associate Professor of Freehand Drawing.

ELSIE SAMETH, B.S., Associate Professor of Physical Education for Women.

ARCHIBALD EDWARDS TURNER, B.A., Associate Professor of Oral English.

JAMES ANDREW NYSWANDER, B.S., Associate Professor of Mathematics and Mechanics.

GEORGE WALLACE SEARS, Ph.D., Associate Professor of Chemistry.

RAYMOND ORLANDO COURTRIGHT, B.A., Associate Professor of Physical Education for Men.

STEPHEN LOCKETT, V.M.D., Associate Professor of Veterinary Science.

SIDNEY WARREN WILCOX, B.L., Associate Professor of Economics and Sociology.

ALBERT WILLIAM PRESTON, Assistant Professor of Mechanical Engineering.

MARGARET ELIZABETH MACK, A.M., Assistant Professor of Biology.

CYRUS WILLIAM LANTZ, A.M., Assistant Professor of Botany and Horticulture.

CLIFTON ROY HILL, C.E., Assistant Professor of Civil Engineering.

GEORGE HARDMAN, M.S., Assistant Professor of Agronomy.

GILBERT BRUCE BLAIR, A.M., Assistant Professor of Physics.

JESSIE P. POPE, B.S., Assistant Professor of Home Economics.

JOHN F. G. HICKS, Ph.D., Assistant Professor of Chemistry.
CHARLES LEROY BROWN, M.A., Instructor in Biology.
CATHARINE FRANCES SOMERS, B.A., Instructor in Physical Education for Women.
HOMER DERR, M.S., Instructor in Agricultural Education.
CLARENCE H. KENT, B.S., Instructor in Mechanical Engineering.
CHARLES B. WILLIAMS, Instructor in Physical Education for Men.
SYLVIA CAMPIGLIA, B.S., Instructor of Teacher Training in Home Economics.

AIM

The aim of the School of Agriculture is to give such training in farming, gardening, and stock-raising, and in the sciences and other related subjects as will furnish a well-rounded education.

EQUIPMENT

AGRICULTURAL BUILDING—For description of Agricultural Building, see page 32.

UNIVERSITY FARM—The University Farm, comprising 213 acres formerly owned by the D. C. Wheeler Company, Incorporated, is located three miles south of Reno along the Virginia road. The college herds contain representative types of the following breeds: Percheron and Shire horses; Angus, Hereford and Shorthorn cattle; Cheviot, Corriedale, Cotswold, Dorset, Hampshire, Rambouillet, Southdown, and Shropshire sheep; Berkshire, Chester White, Duroc Jersey, Large Yorkshire, Poland China, and Tamworth swine.

The farm is maintained and operated as a livestock farm. Practically all feedstuffs used for the herds and flocks are grown on this farm. The farm is especially well equipped with high-class individuals of the different breeds of Nevada live stock.

EXPERIMENT STATION FARM—The College Farm, where investigations in irrigation and the growing of farm, garden, and forage crops are carried on, affords a first-hand acquaintance with the problems and methods of practical agriculture and horticulture.

DAIRY—The two-story dairy building, equipped with up-to-date machinery and apparatus, furnishes the best opportunity for instruction in methods of handling milk and dairy products, as milk testing, butter-making, cheese manufacture, and the marketing of milk. The dairy herd of the Agricultural College gives opportunity for the study of dairy stock and milk production.

SHOPS—The shops for teaching of wood-work and blacksmithing are equipped for the best of work. Arrangements have been made for the housing and use of the representative types of farm machinery used in the various field operations.

ADMISSION REQUIREMENTS

For admission requirements, entrance subjects, and the number of credits belonging to each, see page 82.

REQUIREMENTS FOR A BACCALAUREATE DEGREE IN AGRICULTURE

The Degree of Bachelor of Science in Agriculture is conferred upon students who have satisfactorily completed the full course of study aggregating 150 semester units[1] in the School of Agriculture, as follows:

COLLEGE OF AGRICULTURE

COURSES OF STUDY

		LAB.	LEC.
Freshman Year—First Semester			
English 1	Composition and Rhetoric	..	3
Botany 1	Morphology and Physiology of Flowering Plants	2	2
*Chemistry 1 and 3	Elementary Chemistry	3	3
Mechanic Arts 1	Wood Work	1	..
Animal Husbandry 1	Breeds of Live Stock	..	3
Hygiene 1		..	1
			18
Freshman Year—Second Semester			
English 2	Composition and Rhetoric	..	3
Zoology 2	General Zoology	2	2
Dairying 1	Dairying	1	2
Chemistry 6	General Chemistry	..	2
Chemistry 4	Qualitative Analysis	3	..
Mechanic Arts 2	Forging	2	..
Hygiene 2		..	1
			18
Sophomore Year—First Semester			
Chemistry 21	Agricultural Organic Chemistry	2	2
Animal Husbandry 4	Livestock Judging	2	2
Physics 1	General Physics	1	3
Agronomy 6	Soil Management	1	3
Chemistry 23	Agricultural Quantitative Analysis	2	..
			18

[1]Including four units in Military Science or Physical Education in the Freshman and Sophomore years. This total of required units rises to 151 for the class graduating in 1924, and for classes thereafter to 152, by reason of the added 2 units of required work in Physical Education for men beginning with the Freshman class in 1920–1921, and the addition of 2 credits to the Sophomore military requirement beginning with the Sophomore class of the year 1921–1922.

*Students having high-school chemistry may take Chemistry 5 and 7.

Sophomore Year—Second Semester

		LAB.	LEC.
Agronomy 4	Forage Crops	1	3
Animal Husbandry 30	Livestock Feeding	..	3
Horticulture 2	Elements of Horticulture	1	2
Physics 2	General Physics	1	3
Chemistry 24	Agricultural Quantitative Analysis	2	..
Elective		2	..
			18

AGRONOMY—HORTICULTURE MAJOR

Junior Year—First Semester

Civil Engineering 51	Elementary Surveying	..	2
Civil Engineering 52	Elementary Surveying and Plotting	2	..
Hygiene 53	Rural Hygiene	1	3
Zoology 53	Economic Zoology	1	2
Economics 1	Principles of Economics	..	3
Elective		4	..
			18

Junior Year—Second Semester

Agronomy 58	Irrigation and Drainage	2	3
Agronomy 62	Soil Fertility	2	2
Agronomy 71	Farm Mechanics	2	1
Economics 2	Principles of Economics	..	3
Elective		3	..
			18

Senior Year—First Semester

Botany 61	Plant Breeding	..	3
Agronomy 53	Field Crops	2	2
Elective		11	..
			18

Senior Year—Second Semester

Botany 56	Plant Physiology	2	2
Botany 64	Plant Pathology	1	2
Agronomy 57	Farm Management	1	3
Agronomy 72	Farm Structures	2	..
Elective		5	..
			18

ANIMAL HUSBANDRY—DAIRYING MAJOR

Junior Year—First Semester

Civil Engineering 51	Elementary Surveying	..	2
Civil Engineering 52	Elementary Surveying	2	..
Hygiene 53	Rural Hygiene	1	3
Zoology 51	Anatomy of Domestic Animals	1	2
Economics 1	Principles of Economics	..	3
Elective		4	..
			18

Junior Year—Second Semester

Agronomy 58	Irrigation and Drainage	2	3
Bacteriology 52	General Bacteriology	2	2
Animal Husbandry 51	Genetics	..	3
Agronomy 71	Farm Mechanics	3	..
Economics 2	Principles of Economics	..	3
			18

Senior Year—First Semester		LAB.	LEC.
Animal Husbandry 56	Advanced Livestock Judging	2	1
Animal Husbandry 55	Advanced Livestock Feeding	2	1
Veterinary Science 54	Veterinary Science	2	3
Dairying 53	Milk Production	3	–
Elective		4	–
			18

Senior Year—Second Semester			
Agronomy 72	Farm Structures	2	–
Agronomy 57	Farm Management	1	3
Animal Husbandry 57	Livestock Management	–	3
Elective		9	–
			18

SCHOOL OF HOME ECONOMICS

REQUIREMENTS FOR A BACCALAUREATE DEGREE IN HOME ECONOMICS

The degree of Bachelor of Science in Home Economics is conferred upon students who have satisfactorily completed the full course of study aggregating 137 semester units (including 3 units in Physical Education in the Freshman and Sophomore years) in the School of Home Economics as given on the following pages.

AIM

The aim of the School of Home Economics is to raise the ideals of home-making, to prepare young women for the successful management of a home, and to impart to them scientific and technical knowledge, coupled with sufficient practice to fit them to become, either thoughtful home-makers, teachers of home economics, or workers in any field where this knowledge is needed.

Experience in actual home-making, either as a daughter working in the family or as a manager of a house, is a great aid to the successful work of the Home Economics course, and students are urged to get some such vocational experience.

EQUIPMENT

The Department of Home Economics has six large rooms and two offices in the Agricultural Building. For detailed description, see Agricultural Building and Laboratories.

The library of the Home Economics Department, covering dietetics, household sciences, house decoration, and textiles, is kept in the main University library building. Special fashion magazines are on a reference table in the sewing laboratory.

SCHOOL OF HOME ECONOMICS

COURSES OF STUDY

		LAB.	LEC.
Freshman Year—First Semester			
English 1	Composition and Rhetoric	..	3
Art 5	Principles of Art	2	..
Physical Education 1	Freshman Practice	1	..
Home Economics 15	Elementary Clothing	2	..
History or Modern Language		..	3
Hygiene 1		..	1
Botany 1	Morphology and Physiology of Flowering Plants	2	2
Home Economics 3	Marketing	1	..
			17
Freshman Year—Second Semester			
English 2	Composition and Rhetoric	..	3
Art 6	Art Applied to the Home	2	..
Physical Education 2	Freshman Practice	1	..
Home Economics 18	Elementary Clothing	2	..
History or Modern Language		..	3
Hygiene 2		..	1
Home Economics 16	Textiles	..	2
Elective		3	..
			17
Sophomore Year—First Semester			
English 11	Public Speaking	..	2
Chemistry 1 and 3	Elementary Chemistry	3	3
or	or		
Chemistry 5 and 7	General Inorganic Chemistry	1	2
Physical Education 3	Sophomore Practice	½	..
Home Economics 31	Elementary Cookery	2	1
Physics 19	Household Physics	1	2
Elective		6 or 3	..
			17½
Sophomore Year—Second Semester			
English 12	Public Speaking	..	2
Chemistry 6	General Inorganic Chemistry	..	2
Physical Education 4	Sophomore Practice	½	..
Home Economics 32	Elementary Cookery	2	1
Physics 20	Household Physics	1	2
Elective		7	..
			17½
Junior Year—First Semester			
Chemistry 21	Agricultural Organic Chemistry	..	2
Hygiene 7	Anatomy Physiology and Hygiene	1	2
Economics 1	Principles of Economics	..	3
Home Economics 65	Advanced Clothing	2	..
Elective		7	..
			17
Junior Year—Second Semester			
Chemistry 25	Household Chemistry	..	2
Hygiene 8	Anatomy Physiology and Hygiene	1	2
Economics 2	Principles of Economics	..	3
Home Economics 66	Advanced Clothing	2	..
Home Economics 56	Elementary Dietetics	2	1
Elective		4	..
			17

Senior Year—First Semester		LAB.	LEC.
Home Economics 81	Dietetics	..	2
Home Economics 83	Dietetics	3	..
Home Economics 87	House Decoration	1	2
Elective		9	..
			17

Senior Year—Second Semester			
Home Economics 86	Household Administration	..	3
Home Economics 88	Care of the House	1	1
Home Economics 76	Child Care	..	2
Elective		10	..
			17

RECOMMENDED ELECTIVES

Group I—Related Subjects:

[1]French 1–2, Zoology 1, History 5–6, Nature Study 1–2, Foreign Language (second year), English 44–45, Latin 61 (Greek and Roman Art), and Latin 62 (Renaissance and Modern Art).

Group II—Home Economics Electives:

Home Economics 25, 45, 49–50, 51, 52, 57, 58, 60, 85, 95, 99, 100.

Attention is called to the fact that students majoring in Home Economics are allowed sufficient electives to take a second major or minor in some other department.

REQUIREMENTS FOR A HIGH-SCHOOL TEACHER'S CERTIFICATE IN HOME ECONOMICS

In addition to the Home Economics course of study, the following courses are required for the high-school teacher's certificate:

Psychology 5	General Psychology	3 credits
Education 60	Problems in Secondary Education	3 credits
Education 71	Principles of Teaching	3 credits
Education 63	School Management, Law, and Hygiene	1 credit
Education 75–76	Practice Teaching	4 credits
Total		14 credits

SHORT COURSES

For description of Short Course in Dairying and Home-Makers' Short Course, see "Short Courses."

[1]It is strongly recommended that students in Home Economics shall present one year of French toward graduation.

COURSES OF INSTRUCTION

COURSES OF INSTRUCTION

On the following pages, listed under the Departments to which they belong, are given all the courses in which instruction is offered by the University. The Departments are arranged in alphabetical order, as in the table below. If all the instruction given by a department is intended for a particular College, this fact is indicated by the name of the College below the name of the Department. If certain courses offered by a Department are intended for a particular College, this fact is indicated by the name of the College following the number of the course. In all cases where no limitations of this character are found, it may be assumed that, so far as the curricula and regulations of the several colleges permit election, the instruction offered is open to all qualified students of the University.

The numbers prefixed to the courses ordinarily denote the classes of students for whom the work is intended, courses numbered from 1 to 50 being designated primarily for Freshmen and Sophomores, 51 to 100 for Juniors and Seniors, and 101 to 200 for graduate students.

DEPARTMENTS

Agricultural Education
Agronomy
Animal Husbandry
Art
Biology
  Bacteriology
  Botany
  Horticulture
  Hygiene
  Nature Study
  Zoology
Business Administration
Chemistry
Civil Engineering
Classics
  Greek
  Latin
Dairy and Poultry Husbandry
Drawing (See Mechanical Engineering)
Economics and Sociology
Education
  Music
Electrical Engineering
English Language and Literature
Geology
German Language and Literature
History
Home Economics
Mathematics
Mechanical Engineering
Mechanic Arts
Metallurgy
Military Science and Tactics
Mineralogy
Mining
Philosophy
Physical Education
  Men
  Women
Physics
Political Science
Psychology
Romanic Languages and Literatures
  French
  Italian
  Portuguese
  Spanish
Sociology (See Economics and Sociology)
Veterinary Science

AGRICULTURAL EDUCATION

MR. DERR

(It is recommended that students wishing to prepare for teaching positions in agriculture, take the following courses: Psychology 10, Education 60, Education 71, and Agricultural Education 76. The requirements for a state certificate to teach vocational agriculture include: 1. Graduation from a standard four-year agricultural course of college. 2. Two years practical experience farming after the age of 16.)

76. TEACHING OF VOCATIONAL AGRICULTURE. A first-hand study of the teaching of vocational agriculture. Each student becomes a teacher and has charge of a class of farm boys in elementary agriculture which meets at the College of Agriculture for classroom, field, and laboratory instruction. Lesson plans, teaching methods, and project supervision practice are discussed and adapted to meet the needs and conditions confronting each student in his role as an agriculture teacher. In a more general way the following topics are studied: arrangement and equipment of the classroom, laboratory, and shop; planning a course adapted to local needs; cooperation with various agencies in extension, social, civic, and other activities, etc. *Prerequisite:* Senior standing in the College of Agriculture and two years of practical farming experience after the age of 16. *Four credits. Second semester.* No fees or deposits.

AGRONOMY

College of Agriculture

PROFESSOR STEWART
ASSISTANT PROFESSOR HARDMAN

1. ELEMENTARY AGRICULTURE. Introduction to Agronomy and Horticulture. The soil—its formation, texture, plant-food requirements, moisture, tillage, and fertility; the plant—its relation to soil and climate, its propagation, growth, and cultivation, and the kinds of crops and their culture. *First semester. Three credits.* 105 Agricultural Building. Professor Stewart.

4. FORAGE CROPS. Legumes and grasses, the special use of these crops as hay, soiling, silage, pasture, green manure, cover crops, etc.; the care and management of pastures; plans for the rotation of soiling-crops; adaptation of grasses and other crops for growing under different climatic and soil conditions. Laboratory—the examination of samples of the standard varieties of grasses, clovers, and other forage plants, the study of grass, clover, and alfalfa seeds with reference

to quality, purity, and freedom from adulterants and weed seeds; the identification of seeds of noxious weeds which may be found in grass, clover, or alfalfa seed. *Second semester. Lectures, three hours; laboratory, one period. Four credits.* 9 Agricultural Building. Professor Stewart. Fee, $2.

6. SOIL MANAGEMENT. A general lecture and laboratory course in geology of soils, origin, formation, physical composition, soil moisture, moisture movements and conservation, physical processes, surface tension, osmosis, capillarity, aeration and temperature. Influence of washing, drainage, and irrigation. Laboratory—comparison of the physical properties of different soil types as—specific gravity, water retension, capillarity, organic matter, alkalies, etc. Effect of mulches; soil sampling; mechanical analysis. *Prerequisite:* Agronomy 1. *First semester. Lectures, two hours; laboratory, two periods. Four credits.* 8 Agricultural Building. Professor Stewart. Fee, $3; deposit, $3.

53. FIELD CROPS. The principal cereal crops—corn, wheat, oats, barley, rye, rice, sorghum, etc. Laboratory—the study of the matured plant of the different varieties of grain; the judging of grain and hay according to the commercial standards of perfection for pure-bred varieties. *Knight:* Judging and Commercial Grading of Small Grains and Hay. *First semester. Lectures, three hours; laboratory, one period. Four credits.* 9 Agricultural Building. Professor Stewart. Fee, $2.

57. FARM MANAGEMENT. The evolution of farming; the relation of capital and labor to farm management; the general management of implements and equipment; ownership versus rental of land; the choice of a farm; systems of farming; farming compared with other lines of business; marketing problems; advertising; farm records and farm accounts; the management of fields, crops, and manures. *Warren:* Farm Management. *Second semester. Lectures, three hours; laboratory, two periods. Four credits.* 110 Agricultural Building. Professor Stewart. Fee, $3.

58. IRRIGATION AND DRAINAGE. A study of the principles of irrigation as follows: Sources of water supply; measurement of water; water requirements of crops; duty of water; losses in use of irrigation water; preparation of land and methods of irrigation; farm ditches and structures; drainage of farm lands and reclamation of alkali lands. *Second semester. Lectures, three hours; laboratory, two periods.*

Five credits. 110 Agricultural Building, Assistant Professor Hardman. Fee, $5.

62. SOIL FERTILITY. Composition and value of fertilizers, barn-yard and green manures; maintenance and improvement of fertility; effect of various crops and different systems of farming on the fertility of the soil. Studies of crop rotation and fertility. Study of the productivity, best uses of Nevada soils and their improvement. Effect of irrigation upon the fertility of the soil. The laboratory work consists of investigations of the effect of irrigation on soil texture, moisture, fertility, etc., and effect of irrigation on alkali. *Prerequisite:* Agronomy 6. *Second semester. Lectures, three hours; laboratory, one period. Four credits.* 3 Agricultural Building. Professor Stewart. Fee, $3; deposit, $3.

71. GENERAL FARM MECHANICS. A fully equipped laboratory in the basement of the Agricultural Building offers facilities for a full course of instruction and practice in the machinery and equipment of the farm, including concrete mixing and forms for concrete: construction and use of modern field machinery for tillage, seeding and harvesting; general labor-saving machinery for the farm; farm pumps, windmills, pressure systems and gasoline engines. (Machinery for study and demonstration purposes is loaned by the leading implement houses of Nevada.) *Second semester. Junior year. Lecture, one hour; laboratory, two periods. Three credits.* 8 Agricultural Building. Assistant Professor Hardman. Fee, $1; deposit, $2.

72. FARM STRUCTURES. A course in the methods of construction and designs of ordinary farm buildings, including houses, barns, sheds, granaries, silos, etc. Various small farm implements and appliances as road-drags, levelers, irrigation boxes and forms for concrete work will be designed and built. Field trips will be taken to observe buildings under construction; sketches and complete cost estimates will be made of these buildings. Principles of rural sanitation including heating, lighting, water supply, and sewerage disposal. *Second semester. Laboratory, two periods. Two credits.* 9 Agricultural Building. Assistant Professor Hardman. Fee, $1.

73. FARM MOTORS AND TRACTORS. The advanced study of farm motors, water, gasoline, and electric engines; gasoline and steam tractors; demonstrations and practice work are given in the operation of the various types of motors. *Sec-*

ond semester. Lecture, one hour; laboratory, two periods. Three credits. 8 Agricultural Building. Assistant Professor Hardman. Fee, $2; deposit, $2.

74. HISTORY OF IRRIGATION. Review of the history of irrigation; a study of irrigation institutions, economics, water rights, and irrigation organizations; development of irrigation law and the doctrine of appropriation; riparian rights. *Second semester. Three credits.* 105 Agricultural Building.

ANIMAL HUSBANDRY

College of Agriculture

PROFESSOR WILSON

1. BREEDS OF LIVE STOCK. The origin, development, characteristics, and uses of types and breeds of farm animals. For illustration, the animals owned by the department and other stock farms in the vicinity will be used, also lantern slides of typical animals of the various types and breeds. *Plumb:* Types and Breeds of Farm Animals. *First semester. Three credits.* 105 Agricultural Building. Professor Wilson.

4. LIVESTOCK JUDGING. Practice in judging live stock to gain familiarity with the points of excellence in the various breeds of farm animals. *Plumb:* Judging Farm Animals. *Prerequisite:* Animal Husbandry 1. *First semester. Lectures, two hours; laboratory, two periods. Four credits.* 105 Agricultural Building, and University Farm. Professor Wilson. Fee, $3.

30. LIVESTOCK FEEDING. The principles underlying and problems connected with the feeding of farm animals. *Henry:* Feeds and Feeding. *Savage:* Manual. *Prerequisite:* Animal Husbandry 1 and 4, Chemistry 1, 6, or 5, 6. *Second semester. Three credits.* 105 Agricultural Building. Professor Wilson.

51. GENETICS. A discussion of the principles underlying the science of breeding, the aim of which is to develop, maintain, and improve the various types and breeds of farm animals and farm crops, studied with special reference to their application to breeding of farm animals. *Mumford:* The Breeding of Animals. *Prerequisite:* Zoology 1 and 51. *Second semester. Three credits.* 105 Agricultural Building. Professor Wilson.

54. LIVESTOCK REGISTRATION. The details of registering

pure-bred animals, requiring the use of blanks for making application for registry; the use of herd books. A study of the history of the recognized registry associations and the rules governing them; a study of the value of pedigrees and how to keep the herd records. *Prerequisite:* Animal Husbandry 1 and 4. *First semester. One credit.* 105 Agricultural Building. Professor Wilson.

55. ADVANCED LIVESTOCK FEEDING. The work in this course is largely laboratory, consisting of actual feeding experiments with farm animals. The laboratory is given for at least sixty days, seven days a week. *Prerequisite:* Animal Husbandry 1, 4, 30. *First semester. Lecture, one hour; laboratory, two periods. Three credits.* 105 Agricultural Building, and University Farm. Professor Wilson.

56. ADVANCED STOCK JUDGING. Comparative scoring and judging. The judging of animals in classes, as at fairs and stock shows. *Prerequisite:* Animal Husbandry 4. *First semester. Three credits.* 105 Agricultural Building, and University Farm. Professor Wilson. Fee, $3.

57. LIVESTOCK MANAGEMENT. A study of the problems confronting the livestock farmer; calculating profits under various conditions; systematic keeping of records of farming operations; selection of animals for the feed yard, show ring, market, and butcher. *Prerequisite:* Animal Husbandry 1, 4, 51, 54, 55. *Second semester. Three credits.* 105 Agricultural Building. Professor Wilson.

ART

ASSOCIATE PROFESSOR LEWERS

Requirements for a minor in Art: Art 1–2 (4 units), 3–4 (4 units), 51–52 (3 units), and 53–54 (3 units).

Requirements for a major in Art: Art 1–2 (4 units), 3–4 (4 units), 51–52 (6 units), and 53–54 (6 units).

Requirements for a special art teacher's certificate: Art 1–2 (4 units), Art 3–4 (3 units), Art 7–8 (4 units), Art 51–52 (6 units), Art 53–54 (7 units); Mechanical Engineering 2 (1 unit), Mechanical Engineering 3 (2 units); Mechanic Arts 5 (4 units), Art 5–6 (4 units).

1–2. ELEMENTARY ART. The fundamental principles of form, color, and light and shade. Application of principles in drawing and painting in all mediums, pencil, charcoal, oil color, water color, and pastel. Drawing and painting from nature in landscape and still life. Fundamental principles of design. Applied design in manual arts. *Both semesters. One credit required each semester.* More credits may be elected. Education Building. Associate Professor Lewers.

3–4. INTERMEDIATE ART. A continuation of the work of Art 1–2, with addition of clay modeling, drawing, and painting from life. *Both semesters. Credits to be arranged.* Education Building. Associate Professor Lewers.

5–6. ART APPLIED TO THE HOME. (School of Home Economics). The fundamental principles of form, color, and light and shade. Color and form studied from nature in landscape and still life. Color and line harmony as applied to dress, millinery, and house furnishing. Fundamental prineiples of design. Original designing and its application in all ways relating to the home. *Two credits required each semester.* Education Building. Associate Professor Lewers.

7–8. TEACHERS' COURSE. A continuation of the first year's course (Art 1–2) in all branches and its application to each grade in public-school work. *Second semester. One credit.* Education Building. Associate Professor Lewers.

51–52. ADVANCED ART. The continuation of Art 3–4 in more advanced work. *Both semesters.* Education Building. Associate Professor Lewers.

53–54. ADVANCED ART. Continuation of Art 51–52 in more advanced work. *Both semesters. Credits to be arranged.* Education Building. Associate Professor Lewers.

For the history of Art, see Latin 61 and 62.

BIOLOGY

PROFESSOR FRANDSEN
ASSISTANT PROFESSOR MACK
ASSISTANT PROFESSOR LANTZ
MR. BROWN

The Department of Biology includes the following divisions: Bacteriology, Botany, Horticulture, Hygiene, Nature Study, and Zoology.

Bacteriology

52. GENERAL BACTERIOLOGY. A course of lectures and laboratory exercises on the morphology and life processes of the bacteria, with some references to allied organisms. The relationship of microorganisms to soil fertility, dairy products, water purity, sewerage, and the production of disease will be considered. *Prerequisite:* Zoology 1, Botany 1, or Hygiene, 7–8. *Second semester. Lectures, two hours; laboratory, two periods. Four credits.* 212 Agricultural Building. Professor Frandsen. Fee, $2; deposit, $2.

Botany

Requirements for a minor in Botany: Botany 1 and 2, Zoology 2, and six hours of Junior-Senior work.

Requirements for a major in Botany: Botany 1 and 2, Zoology 2, and twelve hours of Junior-Senior work.

Requirements for a teacher's recommendation in Botany: A major or a minor in the Department.

Students intending to pursue graduate or advanced professional courses in Botany are advised to take Mathematics 5 and 12, Chemistry 5, 6, 7, 4, 51–52, Physics 1–2 (if they have not presented Physics for admission), German 1–2 and 19–20, and French 1–2.

1. MORPHOLOGY AND PHYSIOLOGY OF THE FLOWERING PLANTS. A study of the fundamental principles of botany. The structure, physiological activities, and adaptations of the higher plants. The importance of plants in nature and their usefulness to man. *Second semester. Lectures, two hours; laboratory, two hours. Four credits.* 110 and 210 Agricultural Building. Assistant Professor Lantz. Fee, $1; deposit, $2.

2. MORPHOLOGY AND PHYSIOLOGY OF THE NONFLOWERING PLANTS. A study of the morphology and physiology of algæ, bacteria, fungi, mosses, ferns, and gymnosperms. The economic importance of the forms, especially bacteria and fungi. The evolution of the plant kingdom. *First semester. Lectures, two hours; laboratory, two periods. Four credits.* 209 Agricultural Building. Assistant Professor Lantz. Fee, $1; deposit, $2.

53. TAXONOMY. A systematic and comparative study of the principal families of flowering plants with special reference to their field recognition characters. The laboratory and field work will give an acquaintance with the common plants of our local flora. *Prerequisite:* Botany 1. *Lecture, one hour; laboratory, two periods. Three credits.* 209 Agricultural Building. Assistant Professor Lantz. Fee, $1; deposit, $2.

56. PLANT PHYSIOLOGY. A more advanced study of plant nutrition, growth, and response to environment. Emphasis upon the physiological processes of plants which are fundamental to agricultural and horticultural practice. *Prerequisite:* Botany 4 and Elementary Chemistry and Physics. *Second semester. Lecture, two hours; laboratory, two periods. Four credits.* 209 Agricultural Building. Assistant Professor Lantz. Fee, $2; deposit, $2.

61. PLANT BREEDING (College of Agriculture). A study

of variations in plants, methods of selection and improving by the breeding of crops, fruits, and vegetables. Reports of results obtained by various investigators. *Prerequisite:* Botany 1. *First semester. Lectures, three hours. Three credits.* 209 Agricultural Building. Assistant Professor Lantz.

64. PLANT PATHOLOGY (College of Agriculture). A study of the important diseases of economic plants of Nevada, their causes, identification, and control. *Prerequisite:* Botany 1. *Second semester. Lectures, two hours; laboratory, one period. Three credits.* 209 Agricultural Building. Assistant Professor Lantz. Fee, $2; deposit, $2.

70. HISTOLOGY AND TECHNIQUE. The preparation of microscopic slides and a comparative study of the structure and development of plant tissues. *Prerequisite:* Botany 3 or Botany 2. *Second semester. Credits to be arranged.* 209 Agricultural Building. Assistant Professor Lantz. Fee, $2; deposit $2.

91. ADVANCED BOTANY. Special problems in some field of botany, physiology, pathology, histology, or taxonomy. Laboratory, assigned readings and reports. *Prerequisite:* Two or three years of Botany. *First semester. Credits to be arranged.* 209 Agricultural Building. Assistant Professor Lantz. Fee, $1 per laboratory credit; deposit, $1 per laboratory credit.

92–93. A continuation of Botany 91.

Horticulture

2. ELEMENTS OF HORTICULTURE (College of Agriculture). A general survey of the principles of fruit growing and vegetable gardening, with special reference to the farm home. Text-book work, assigned readings and practical exercises. *Prerequisite:* Botany 1. *Second semester. Lectures, two hours; laboratory, one period. Three credits.* 4 Agricultural Building. Assistant Professor Lantz. Fee, $2; deposit, $2.

11. PLANT PROPAGATION (College of Agriculture). The planting, care, and culture requirements of ornamental and garden plants. *First semester. Lecture, one hour; laboratory, one period. Two credits.* 4 Agricultural Building. Assistant Professor Lantz. Fee, $1; deposit, $1.

51. ADVANCED HORTICULTURE. Special problems in the growing of fruits or vegetables, with assigned readings and

reports. *Prerequisite:* Botany 1 and Horticulture 2. *First semester. Lectures, two hours. Two credits.* 4 Agricultural Building. Assistant Professor Lantz.

Hygiene

Requirements for a minor in Hygiene: Hygiene 1–2, 7–8, Zoology 9, and Bacteriology 52.

1–2. GENERAL AND PERSONAL HYGIENE. Two lectures per week throughout the year. Required of all Freshmen. *One credit.* Professors Frandsen, Mack, and others.

3. TEACHERS' HYGIENE. This course consists of lectures, assigned readings, and demonstrations covering the elementary principles of human anatomy and physiology, and paying particular attention to the hygienic applications. The problems of sex hygiene, including the control, the suppression and the prevention of venereal diseases, are discussed both in their individual and in their public bearings. Special attention is placed upon that phase of the subject pertaining to school life, as ventilation, cleanliness, etc. *First semester. Three lectures. Three credits.* 210 Agricultural Building. Assistant Professor Mack.

7–8. HUMAN ANATOMY, PHYSIOLOGY AND HYGIENE. The general principles of human anatomy and physiology, with emphasis upon their hygienic applications. The laboratory work consists of the dissection of some vertebrate, microscopic work on tissues and organs, physiological experiments and demonstrations, study of microorganisms, etc. *Both semesters. Lectures, two hours; laboratory, one period. Total, three credits each semester. Six credits for the year.* Total course only accepted toward graduation. 110 and 210 Agricultural Building. Professor Frandsen, Mr. Brown. Fee, $1.50; deposit, $2.

53. RURAL HYGIENE (College of Agriculture). A course designed primarily for students in the College of Agriculture. Sufficient attention is given animal anatomy and physiology to make the laws of hygiene understood. Emphasis is placed upon matters pertaining particularly to country life, such as sanitation of farm buildings, disposal of garbage and sewage, water for human and animal use, house-flies and other disease carriers. *Prerequisite:* Zoology 2, Botany 1. *First semester. Lectures, three hours; laboratory, one period. Four credits.* 110 and 210 Agricultural Building. Professor Frandsen. Fee, $1.50; deposit, $2.

Nature Study

1–2. GENERAL NATURE STUDY. The object of this course is two-fold: (1) To cultivate a better understanding and appreciation of natural phenomena with emphasis on the biological features; and (2) to prepare for the teaching of nature study in the public schools. It comprises the study of life-histories, pond life, native birds, etc., and includes the making and care of aquaria, terraria, school garden, etc. *Both semesters. Two credits each semester.* 110 and 210 Agricultural Building. Assistant Professor Mack. Fee, $1; deposit, $2.

Zoology

Requirements for a minor in Zoology: Zoology 2 and 8 or 9, and six units of Junior-Senior work.

Requirements for a major in Zoology: Zoology 2, 9 (or Hygiene 7–8), Botany 1 or 2, and twelve units of Junior-Senior work.

Requirement for a teachers' recommendation in Zoology: A major or a minor in the department.

Additional courses advised: Physics 1–2 (or admission credit). Chemistry 1, 3, 6, 4 (or 5, 6, 7, 4), 51–52, and German 1–2 and 3–4. Desirable also is a reading knowledge of French and two years of preparatory Latin, or one year of college Latin.

2. GENERAL ZOOLOGY. An introductory course dealing with the general principles of the science. The laboratory work consists of the study of the structure, activities, and habits of a number of types representative of the principal animal groups, and chosen as much as possible from local forms. *Second semester. Lectures, two hours; laboratory, two periods. Four credits.* 110 and 210 Agricultural Building. Professor Frandsen and Mr. Brown. Fee, $2; deposit, $2.

8. EVOLUTION. Lectures illustrated by lantern slides on the evidence and factors of organic evolution, with a discussion of the bearing of evolutionary principles upon science and life in general. *Second semester. Two credits.* 110 Agricultural Building. Professor Frandsen.

9. COMPARATIVE ANATOMY OF VERTEBRATES. Lectures on the progressive development of structures and functions from the lower to the higher vertebrates, leading up to human anatomy. Laboratory dissection of the dog-fish, salamander, and a mammal. *Prerequisite:* Zoology 2, or Hygiene 7–8. *First semester. Lectures, three hours; laboratory, two periods. Four credits.* 5 Agricultural Building. Professor Frandsen. Fee, $2; deposit, $2.

51. ANATOMY OF DOMESTIC ANIMALS (College of Agriculture). Lectures, the same as course 9, text-book and refer-

ence assignments. Laboratory study of skeletons of domestic animals, and the dissection of a cat, dog, or sheep. *Prerequisite:* Zoology 2, or Hygiene 7–8 or 53. *First semester. Lectures, three hours; laboratory, one period. Four credits.* 5 Agricultural Building. Mr. Brown. Fee, $2; deposit, $2.

53. ECONOMIC ZOOLOGY (College of Agriculture). Lectures dealing with the habits and life-histories of the more important economic vertebrates, insects, worms, etc., in their relations to agriculture. *First semester. Lectures, two hours; laboratory, one period. Three credits.* 110 and 210 Agricultural Building. Mr. Brown. Fee, $1; deposit, $2.

63–64. EMBRYOLOGY. Lectures on comparative embryology of vertebrates. The laboratory work consists of the study of preparations of the frog, chick, pig, and human embryos at various stages of development. Some training in the preparation of embryological material will be given. *Prerequisite:* Zoology 2 and 9, or Hygiene 7–8. *Second semester. Lectures, three hours; laboratory, two periods. Four credits.* 212 Agricultural Building. Professor Frandsen. (Alternates with Zoology 65 and 66.) Fee, $1; deposit, $2.

65. HISTOLOGY. The microscope and accessory apparatus, histological methods, and technique. Comparative cytology of animal tissues. *Prerequisite:* Zoology 1 and 9, or Hygiene 7–8. *Second semester. Lectures, three hours; laboratory, two periods. Four credits.* 212 Agricultural Building. Professor Frandsen. (Alternates with Zoology 64.) Fee, $1; deposit, $2.

66. HISTOLOGY. Same course as 65. *Second semester.*

91. ADVANCED ZOOLOGY. Special zoological problems. Major students may select some problem for investigation under the direction of the instructor. Library reading, laboratory work, and reports, with final results embodied in the form of a thesis. *First semester. Credits to be arranged.* 212 Agricultural Building. Professor Frandsen. Fee, $1; deposit, $2.

92. ADVANCED ZOOLOGY. Continuation of course 91.

BUSINESS ADMINISTRATION[1]

PROFESSOR LEWERS

41–42. BUSINESS ADMINISTRATION. Individual proprietorship; partnership; corporations; organizing a business; office routine; efficiency; wholesale and retail concerns;

[1]All Business Administration courses given by Professor Lewers in Education Building.

office organization and management. *Both semesters. Three credits each semester.*

43–44. ACCOUNTING. Preliminary work; partnership and corporation accounting; voucher systems. *Both semesters. Three credits each semester.* Course not open to Freshmen.

45–46. BUSINESS LAW. Contracts; negotiable paper; sales; agency; partnership; corporations. *Both semesters. Three credits each semester.* Course not open to Freshmen.

53–54. ADVANCED ACCOUNTING. Theory and classification of accounts; business statements and problems. *Prerequisites:* Business Administration 43–44. *Both semesters. Three credits each semester.*

57. SALESMANSHIP. Modern sales organizations; selling problems and practice. *First semester. Two credits.*

58. ADVERTISING. Principles of advertising; personal selling; sales campaigns; media; writing advertisements; special problems. *Second semester. Two credits.*

CHEMISTRY

PROFESSOR ADAMS
ASSOCIATE PROFESSOR SEARS
ASSISTANT PROFESSOR HICKS

Requirements for a minor in Chemistry: Either (for students without admission credit) courses 1, 3, 4, 6, or (for students with one admission credit) courses 5, 6, 7, 4, and, in either case, course 9 and three additional units of Junior-Senior work.

Requirements for a major in Chemistry: Mathematics 5 and 7; Physics 1–2 (or admission credit), and either (for students without admission credit in Chemistry) courses 1, 3, 4, 6, or (for students with one admission credit) courses 5, 6, 7, 4, and, in either case, courses 9, 10, and 51–52, and four additional units of Junior-Senior work.

Requirements for a teacher's recommendation in Chemistry: A major or a minor in the Department.

For the benefit of students desiring to major in Chemistry, the following course of study is recommended. It will be noticed that the Junior and Senior years are left quite free for electives. This is done to enable the student to decide at the end of the Sophomore year which particular field of chemistry, viz: engineering, analytical, organic, inorganic, or agricultural, he desires to stress. He should consult with the head of the department regarding these electives:

Freshman Year—Chemistry 5, 6, 7, 4; English 1–2; Mineralogy 1; Mathematics 7–12; Mechanical Engineering 2.

Sophomore Year—Chemistry 9–10, 41; Metallurgy 55; German 1–2; Physics 1–2.

Junior Year—Chemistry 51–52; German 19–20; Electrical Engineering 59–60; Mechanical Engineering 68.

Senior Year—Chemistry 63–64, 81–82, 84; Metallurgy 51.

To meet Freshman requirement of College of Arts and Science Chemistry 1 and 3 and 6 and 4 or 5 and 7 and 6 and 4. To meet Sophomore requirement Chemistry 9 and any other Freshman or Sophomore course.

1. ELEMENTARY CHEMISTRY. Lectures and recitations on the elementary theories and principles of chemistry. Designed for students who have not presented matriculation chemistry. From this course and Chemistry 3, four credits may be offered as satisfying the requirements for matriculation chemistry. Students who have received admission credit in chemistry may register in this course, but will receive only two university credits. The work in this course will be taken up from an elementary standpoint, but during the semester will cover all that is included in Chemistry 5. *First semester. Three credits.* 210 Chemistry Building. Associate Professor Sears.

3. ELEMENTARY CHEMISTRY. A laboratory course designed to accompany Chemistry 1. Students who have received admission credit in chemistry may register in this course, but will receive only one university credit. *First semester. Three credits.* 102 Chemistry Building. Associate Professor Sears. Fee, $6; deposit, $5.

4. QUALITATIVE ANALYSIS. A lecture and laboratory course which should accompany Chemistry 6. One hour of lecture and recitation on the theory and principles of qualitative analysis and six and one-half hours of laboratory work each week. *Either semester. Three credits.* 210 Chemistry Building. Associate Professor Sears. Fee, $6; deposit, $5.

5. GENERAL INORGANIC CHEMISTRY. A lecture course for students who have presented matriculation chemistry. *Either semester. Two credits.* 210 Chemistry Building. Professor Adams.

6. GENERAL INORGANIC CHEMISTRY. Lectures and recitations on the metallic elements. For those students who have completed either Chemistry 1 or Chemistry 5. *Either semester. Two credits.* 210 Chemistry Building. Associate Professor Sears.

7. GENERAL INORGANIC CHEMISTRY. A laboratory course to accompany Chemistry 5. This course is designed to supplement the laboratory work given in high-school chemistry. A number of quantitative experiments will be given. *Either semester. One credit.* 102 Chemistry Building. Associate Professor Sears. Fee, $2; deposit, $5.

9. QUANTITATIVE ANALYSIS. Training in the general methods of manipulation will be given in gravimetric analysis. One hour of laboratory time each week will be used for lecture and classroom instruction. *Prerequisite:* Chemistry 4 and 6. *First semester. Three credits.* 101 Chemistry Building. Professor Adams. Fee, $6; deposit, $5.

10. QUANTITATIVE ANALYSIS. Attention will be given primarily to volumetric analysis, but special determinations in analytical chemistry will be assigned to meet the demands of the individual students and the department in which the degree is sought. One hour of the laboratory time each week will be used for lecture and classroom instruction. *Prerequisite:* Chemistry 9. *Second semester. Three credits.* 101 Chemistry Building. Professor Adams. Fee, $6; deposit, $5.

21. AGRICULTURAL ORGANIC CHEMISTRY (College of Agriculture). Elementary lectures on the simple compounds of carbon accompanied by laboratory work two afternoons each week. The lectures may be taken by students in the Department of Home Economics without the laboratory course. (Not open to students in the College of Arts and Science.) *Prerequisite:* Chemistry 4 and 6. *First semester. Two or four credits.* 210 Chemistry Building. Laboratory fee, $4; deposit, $5.

23–24. AGRICULTURAL QUANTITATIVE ANALYSIS (College of Agriculture). A laboratory course intended for students in the College of Agriculture, designed to give the student familiarity with quantitative methods and some experience in the analysis of farm and dairy products, soil, fertilizers, and stock foods. *Prerequisite:* Chemistry 4 and 6. *Both semesters. Four credits.* 101 Chemistry Building. ..... Fee, $4; deposit, $5.

26. HOUSEHOLD CHEMISTRY (College of Agriculture). A lecture course with classroom experiments, to demonstrate the application of the principles of chemistry to problems of domestic science. *Prerequisite:* Chemistry 21. *Second semester. Two credits.* Assistant Professor Adams.

41. INDUSTRIAL CHEMISTRY. A lecture course on the application of chemical principles to the industrial arts. The course includes the manufacture of acids, alkalies, cements, glass, pottery, explosives, dyes, sugar, soaps, paints, varnishes, and numerous other commercial compounds. Given in alternate years. *Prerequisite:* Chemistry 5, 6, 7 and 4, or 1, 3, 4 and 6. *First semester. Two credits.* 210 Chemistry

Building. Associate Professor Sears. (Not given in 1921–1922.)

51–52. ORGANIC CHEMISTRY. A lecture and laboratory course dealing with the compounds of carbon. Given in alternate years. *Prerequisite:* Chemistry 4 and 6. *Both semesters. Two lectures; two laboratory periods. Four credits each semester.* 210 and 101 Chemistry Building. Professor Adams. Fee, $4; deposit, $5. (Not given in 1921–1922.)

54. ADVANCED ORGANIC CHEMISTRY. A lecture course on special chapters in organic chemistry. Given in alternate years. *Prerequisite:* Chemistry 51–52. *First semester. Two credits.* 210 Chemistry Building. Professor Adams.

62. CHEMISTRY OF THE RARER METALS. A lecture and laboratory course designed to give the student a rather intimate knowledge of the properties, analytical relations, and chemistry of some of the rarer metals. One hour each week will be devoted to lecture or discussion and two and one-half hours to laboratory work. *Prerequisite:* Chemistry 9. *Second semester. Two credits.* 206 Chemistry Building. Associate Professor Sears. Fee, $2; deposit, $5.

63–64. ADVANCED QUANTITATIVE ANALYSIS. A laboratory course designed to give the student practice in careful quantitative work. The analysis of silicates and the ultimate analysis of carbon compounds will be included in this course. Work in various lines of technical analysis arranged to suit the needs of the individual student will also be included in this course. *Prerequisite:* Chemistry 10. *Both semesters. Credits to be arranged.* 204 Chemistry Building. Professors Adams and Sears. Fee, $2 per credit-hour, according to the work done; deposit, $5.

81–82. PHYSICAL CHEMISTRY. A lecture course correlating facts and theories concerning chemical reactions, solutions, vapor tension, osmotic pressure, viscosity, polarimetry, electrical conductivity, thermo-chemistry, chemical dynamics, equilibrium, and related phenomena. Open to Juniors and Seniors who have completed two years of Chemistry and Mathematics 11. A knowledge of integral calculus is desirable. Given in alternate years. *Both semesters. Two credits each semester.* 210 Chemistry Building. Associate Professor Sears.

84. PHYSICAL CHEMISTRY. A laboratory course to accompany Chemistry 82. *Second semester. Two credits.* Given in

alternate years. 204 Chemistry Building. Associate Professor Sears. Fee, $4; deposit, $5.

91. HISTORY OF CHEMISTRY. A lecture course on the history and development of the science of chemistry. *Prerequisite:* Two years of college chemistry. Given in alternate years. *First semester. Two credits.* Professor Adams.

100. THESIS COURSE FOR UNDERGRADUATES. Laboratory and library work on a special topic to be chosen by the student in consultation with the instructors. *Prerequisite:* Chemistry 10, 51–52 or 81–82 and German, and recommended by the head of the department. *Second semester. Two credits.* 204 Chemistry Building. Professors Adams and Sears. Fee, $4; deposit, $5.

200. THESIS COURSE FOR GRADUATE STUDENTS. Special problems for research chosen in consultation with some member of the department and carried on under his direction. No student will be admitted to this course who has not completed four years of work in chemistry and graduated from an approved college. *Both semesters. Credits to be arranged.* 203 and 204 Chemistry Building. Professors Adams and Sears. Fee, $2 per credit-hour, according to work; deposit, $5.

CIVIL ENGINEERING

College of Engineering

PROFESSOR BOARDMAN
ASSISTANT PROFESSOR HILL

2. MAP DRAWING. The work in this course consists of plotting engineering and topographic maps from field-survey notes. *Either semester. Laboratory, one period. One credit.* Electrical Building. Assistant Professor Hill.

8. THE ELEMENTS OF CIVIL ENGINEERING. An outline of the general field included in civil engineering, followed by a brief discussion of a few of the fundamental principles involved in the following: Engineering computations, excavation and other volumes, elementary surveying, transportation engineering, structural engineering and hydraulics. The solution of many problems is required and numerous applications are pointed out of mathematics and the other fundamental sciences which form the basis of engineering. *Second semester. Two credits.* Electrical Building. Professor Boardman.

11–12. ENGINEERING LITERATURE. The presentation and discussion of topics selected from current engineering litera-

ture. *Both semesters. One credit each semester.* Electrical Building. Professor Boardman.

51. ELEMENTARY SURVEYING. The course consists of lectures, recitations, and problems illustrating the construction, adjustment, and use of the tape, level, rod, transit, plane table, and compass as employed in ordinary surveying; computation of areas and volumes, and the United States Government system of laying out public lands. *Prerequisite:* Mathematics 12. *First semester. Lectures, two hours; two credits.* Electrical Building. Professor Boardman.

52. ELEMENTARY SURVEYING AND PLOTTING. Field work and drafting to accompany C. E. 51. *First semester. Laboratory, two credits.* Electrical Building. Professor Boardman. Fee, $3; deposit, $5.

53. ADVANCED SURVEYING. A study of polaris and solar observations for meridian, time, and latitude. Adjustments of instruments. Topographic, hydrographic, city and mine surveying. Special emphasis is laid on the more important computations involved. *Prerequisite:* C. E. 51 and 52. *Second semester. Lectures, two credits.* Electrical Building. Professor Boardman.

54. ADVANCED SURVEYING AND PLOTTING. This course is a continuation of C. E. 52 and accompanies C. E. 53. It culminates in the completion of the field work and plotting of a topographic map of a portion of the University grounds. It also includes adjustments of instruments and observations for determining the local meridian. To be taken with C. E. 53. *Second semester. Laboratory, two credits.* Electrical Building. Professor Boardman. Fee, $3; deposit, $5.

55. FOUNDATIONS AND SUBSTRUCTURES. A study of the temporary and permanent features of such construction. A considerable portion of this course deals with Portland cement concrete, its design, manufacture, and uses in substructures. The laboratory work includes the preparation of working plans of a specified structure, usually a concrete culvert. *First semester. Lectures, two credits; laboratory, one credit; total, three credits.* Electrical Building. Professor Boardman.

58 Sm. MINE SURVEYING. At the close of the college year, the Junior class in surveying will take a four-weeks trip to some mining district in Nevada, unless another location is approved by the Regents. Both underground and surface surveying are carried on, and maps are made from these sur-

veys. All the ordinary surveying operations that a mining engineer may be called upon to perform are practiced. *Prerequisite:* C. E. 51, 52, 53, and 54, or equivalent advanced credit. Professor Boardman and Assistant Professor Hill. Fee, $5; deposit, $5.

60. HIGHWAY ENGINEERING. A detailed study is made of the location, construction, and maintenance of highways. *Either semester. Four credits.* Electrical Building. Professor Boardman. Fee, $3; deposit, $5.

63. RAILROAD ENGINEERING. This course consists of lectures and recitations on the following subjects: Principles of economic location and construction of railroads, maintenance of way, the theory of railroad curves, and the methods of staking out and computing earthwork. *Prerequisite:* C. E. 51, 54 and Mathematics 12. *First semester. Lectures, three hours. Three credits.* Electrical Building. Professor Boardman.

64. RAILROAD ENGINEERING AND PLOTTING. This course accompanies course C. E. 63. The field work consists of the complete location of a line of railroad. In the office complete maps and profiles are drawn, quantities are calculated, and an estimate of cost is made of the railroad. *Prerequisite:* To be taken with C. E. 63. *First semester. Laboratory, two periods. Two credits.* Electrical Building. Professor Boardman.

67. ENGINEERING ECONOMICS. Economic selection, sinking funds, salvage value, depreciation, estimating, etc. Illustrated by engineering problems. *First semester. Lectures, two credits.* Electrical Building. Professor Boardman.

69. GRAPHIC STATICS. A course which covers the principles of graphic statics, and their applications to the analysis of stresses in statically determined structures for various conditions of loadings. *First semester. One hour. One credit.* Electrical Building. Assistant Professor Hill.

71. RESISTANCE OF MATERIALS. A general study of the elasticity of materials, relation between stress and strain, working stresses, common theories of riveted joints, flexure, torsion, and column action. *Prerequisite:* Mathematics 26. *First semester. Lectures, two hours. Two credits.* Electrical Building. Assistant Professor Hill.

72. TESTING MATERIALS LABORATORY. The experiments are as follows: Tension tests on steel, wrought and cast iron;

compression tests on wood, building stone, brick, cast iron, wrought iron, and steel; effects on the strength of mortar by varying the proportions of sand, water, and cement; tests on standard cement briquettes; cross-bending tests on wooden and steel beams; cross-breaking tests on standard cast-iron test bars; tests of small iron, steel, and wood columns. A carefully prepared report clearly stated is required of each test. *Second semester. Laboratory, one period. One credit.* Electrical Building. Assistant Professor Hill. Fee, $2.50.

74. MECHANICS OF MATERIALS. A study of the behavior of materials under stress and a discussion of stress and strain due to bending, buckling, and torsion. The applications of the cardinal principles of mechanics to riveted joints, pipes, cylinders, beams, columns, and shafts. The principle of work and area moments applied to finding deflections and moments of continuous beams. An extended discussion covering the general relations between stress and strain, with applications to combined stress, composite beams, resilience, hooks, and fatigue of metals. *Prerequisite:* Mathematics 55. *Second semester. Lectures, five hours. Five credits.* Electrical Building. Assistant Professor Hill.

75. THEORY OF STRUCTURES. A course of lectures and recitations in which a thorough study is made in determining reactions and stresses in simple roof trusses and highway bridge trusses. Analytical methods of solution are only considered and the student is required to solve many problems by this method. *Prerequisite:* Mathematics 26. *First semester. Lectures, two hours. Two credits.* Electrical Building. Assistant Professor Hill.

76. THEORY OF STRUCTURES. A continuation of C. E. 75, comprising the following subjects which are considered at length: Influence lines, moving loads, simple beams, statically determinate trusses and plate girders. The student is required to solve many problems. *Prerequisite:* C. E. 75. *Second semester. Lectures, two hours. Two credits.* Electrical Building. Assistant Professor Hill.

77. BRIDGE DESIGN. A drafting course which is supplemented with a few lectures. In the lectures the following subjects are discussed: Selection of site, government regulations as to location and design; type of bridges as to material, design, water-way, general dimensions, number of spans, the most economic depth, distance between trusses, panel lengths, details, and erection. The drafting work consists of a design of a through plate girder bridge. The

student computes the stresses for a concentrated wheel-load system, designs the members, makes a complete shop detail drawing of the entire bridge, and estimates the weight and cost; all of this work is carefully checked. *Prerequisite:* C. E. 74 and 76. *First semester. Laboratory, three periods. Three credits.* Electrical Building. Assistant Professor Hill.

78. STRUCTURAL DESIGN. This course consists of a few lectures and drafting work. The lectures, illustrated by prints, drawings, models, etc., are given upon the following subjects: The design of truss members, columns, bracing, and their connections, economic details, shop practice, and the erection of buildings. The problem assigned is a design of a building, in which there is a steel truss to be designed. Following this, the student is required to make a detailed design drawing of the truss. *Prerequisite:* C. E. 74 and 75. *Second semester. Laboratory, two periods. Two credits.* Electrical Building. Assistant Professor Hill.

84. ADVANCED MASONRY DESIGN. This course includes the preparation of design drawings of dams, irrigation works, and other masonry structures. *Prerequisite:* C. E. 55. *Either semester. One to three credits,* depending on the time required to complete the problem that is assigned. Electrical Building. Professor Boardman.

85. REINFORCED CONCRETE. Lectures, recitations, and problems are given, covering the theory of reinforced concrete beams, slabs, and columns for various conditions of loading. The laboratory work includes the preparation of designs and detailed drawings of reinforced concrete buildings and bridges. *Prerequisite:* Mathematics 55 and C. E. 70. *First semester. Lectures, two hours. Laboratory, two periods. Four credits.* Electrical Building. Assistant Professor Hill.

86. ADVANCED REINFORCED CONCRETE. Lectures, recitations, and problems are given, covering the theory of reinforced concrete footings and retaining walls, and upon the elastic-line theory as applied to a reinforced concrete arch. The laboratory work includes the preparation of designs and detailed drawings of a reinforced concrete footing, retaining wall, and arch. *Prerequisite:* C. E. 85. *Second semester. Laboratory, two periods. Lecture, one hour. Three credits.* Electrical Building. Assistant Professor Hill.

88. ADVANCED REINFORCED CONCRETE DESIGN. A drafting

course which includes the preparation of designs and detailed drawings of a reinforced concrete footing, retaining wall, and arch. *Prerequisite:* To be taken with C. E. 86. *Second semester. Laboratory, two periods. Two credits.* Electrical Building. Assistant Professor Hill.

90. HYDRAULICS. A study of the principles of hydraulics and hydrostatics, the pressure and buoyancy of water, and the laws of its flow through openings and in channels of various kinds. Especial emphasis is laid on the solution of numerous practical problems by the student. *Prerequisite:* Mathematics 25 and 26, Physics 1 and 2 or Physics 3 and 4. *Second semester. Lectures, three hours. Three credits.* Electrical Building. Professor Boardman. Fee, $1.

92. SEWERAGE. Studies are made of the various sewerage, drainage, and sewage-disposal systems of towns and cities. *Second semester. Lectures, three hours. Three credits.* Electrical Building. Professor Boardman.

93. PUBLIC WATER SUPPLIES. A study is made of the sources, collection, purification, and distribution of municipal water supplies from the engineering and sanitary points of view. *Second semester. Lectures, two hours. Two credits.* Electrical Building. Professor Boardman.

94. IRRIGATION ENGINEERING. A study is made of the collection, storage, and distribution of water for irrigation, with special reference to the structures involved. *First semester. Lectures, two hours; laboratory, one period. Three credits.* Electrical Building. Professor Boardman.

96. WATER-POWER ENGINEERING. A study is made of the more important problems of water-power development, including the characteristics of hydraulic motors affecting selection and installation. A study is also made of the costs and the feasibility of water-power projects. *Prerequisite:* C. E. 90. *Second semester. Lectures, three hours. Three credits.* Electrical Building. Professor Boardman.

99. ENGINEERING PROBLEMS. This course consists of the working of assigned problems, the solution of which requires the application of various phases of engineering practice. A complete report of the work done on each problem, including all necessary drawings, costs, estimates, and conclusions, must be furnished to the department. This course is intended as an optional substitute for a thesis. *Second semester. Two credits.* Electrical Building. Professor Boardman.

100. THESIS. Thesis on an approved subject in which the student is especially interested. *Second semester. Two credits.* Professor Boardman.

THE CLASSICS

PROFESSOR CHURCH
PROFESSOR THOMPSON

Requirements for a minor in Greek: Greek 1–2, 3–4, and six units in courses 51 to 68.

Requirements for a major in Greek: Greek 1–2, 3–4, and twelve units in courses 51 to 68.

Students intending to take a major or a minor in Greek are advised to elect course 5, if they have not a thorough grasp of the elements of Greek, and a course in the history of Greece.

Requirements for a minor in Latin: With no admission credits in Latin—Latin 1–2, 3–4, and six units; with two admission credits—Latin 3–4, and six units.

Requirements for a major in Latin: With no admission credits—Latin 1–2, 3–4, 7–8, and ten units; with two admission credits, 3–4, 7–8, and ten units.

Entrance credits in Latin above two, especially if they include Vergil's Æneid, will be accepted in meeting major and minor requirements.

The substitution of courses in Greek for equivalent courses in Latin will be permitted.

I. GREEK

1–2. ELEMENTARY GREEK. Grammar, exercises, and Xenophon's Anabasis, Book I. An introductory course for all students who wish by somewhat concentrated effort to acquire in one year the ability to read ordinary Attic prose. *Both semesters.* Credit not to be given until both are completed. *Six credits for the year.* Total course only accepted toward graduation. 203 Stewart Hall. Professor Thompson.

3–4. PLATO AND HOMER. In the first semester, Plato's Apology and Crito, with selections from the other writings, will be read. In the second semester, Homer's Iliad, Books I–VI, will be read as an introduction to epic poetry, with as much attention as is necessary to the grammar and prosody of Homer, and to the Ionic dialect. *Both semesters. Three credits each semester.* 203 Stewart Hall. Professor Thompson.

5. GREEK PROSE COMPOSITION. A systematic study of Greek grammar, and the writing of sentences and simple connected narrative. Open to those taking Greek 3–4, and to those who have not already had Greek composition and are pursuing any of the more advanced courses. *Both semesters.* Credit not to be given until both are completed. *Two credits for the year.* 203 Stewart Hall. Professor Thompson.

51. GREEK LITERATURE—HISTORY. Thucydides, the Sicilian

Expedition, Book VII, with some study of the historical and political aspects of the campaign. *Prerequisite:* Greek 1–2 and 3–4. *First semester. Two credits.* (Given in 1920–1921.) 203 Stewart Hall. Professor Thompson.

53. GREEK LITERATURE—INTRODUCTION TO GREEK TRAGEDY. Reading of the Medea of Euripides and the Œdipus Tyrannus of Sophocles, with some attention to their structure and meters. *Prerequisite:* Greek 1 and 2. *First semester. Three credits.* (Not given in 1920–1921.) 203 Stewart Hall. Professor Thompson.

54. GREEK LITERATURE—TRAGEDY. Reading of the Antigone of Sophocles, and the Prometheus Bound and the Agamemnon of Æschylus. Studies in the development of tragedy, and in the dramatic construction and presentation of the plays read. *Prerequisite:* Greek 1–2 and 3–4. *First semester. Three credits.* (Given in 1920–1921.) 203 Stewart Hall. Professor Thompson.

57. GREEK LITERATURE — ORATORY. Reading of Demosthenes's Oration on the Crown as a masterpiece of eloquence and with special reference to Demosthenes as an orator and statesman. *Prerequisite:* Greek 1–2 and 3–4. *Second semester. Three credits.* (Given in 1920–1921.) 203 Stewart Hall. Professor Thompson.

63. GREEK TESTAMENT. Selections from the Gospels and Epistles. *First semester. Two credits.* 203 Stewart Hall. Professor Thompson.

65. GREEK LITERATURE—PHILOSOPHY. Reading of Plato's Phædo, with a brief study of the history of ancient philosophy. *Prerequisite:* Greek 1–2 and 3–4. *Second semester. Three credits.* Professor Thompson.

II. LATIN

A knowledge of Latin is not required for Courses 41–42, 51–52 and 56.

1–2. BEGINNING LATIN. This course is designed to prepare for the reading of Vergil and also for admission to the professional schools. *Both semesters. Six or ten credits for the year.* Total course only accepted toward graduation. 203 Morrill Hall. Professor Church.

3–4. VERGIL. This course is intended for such students as present one or two years of Latin at entrance, but wish to continue the study in college. *Both semesters. Three credits each semester.* 203 Morrill Hall. Professor Church.

5. CICERO. De Senectute. *First semester. Three credits.* 203 Morrill Hall. Professor Church.

6. HORACE AND CATULLUS. Latin Lyric Poetry. *Second semester. Three credits.* 203 Morrill Hall. Professor Church.

7–8. LATIN PROSE COMPOSITION. Required of all students who have elected Latin as their major department, or who seek to be recommended as teachers of Latin. *Both semesters. One credit each semester.* 203 Morrill Hall. Professor Church.

41. GREEK AND ROMAN ART. Illustrated by lantern slides and reproductions. *First semester. Two credits.* 203 Morrill Hall. Professor Church.

42. RENAISSANCE AND MODERN ART. *Second Semester. Two credits.* 203 Morrill Hall. Professor Church.

51–52. COMPARATIVE CLASSICAL LITERATURE IN ENGLISH. Particularly the Epic, Drama, and Pastoral, with supplemental reference to Classical Mythology and Modern Literature. *Both semesters. Two credits each semester.* 203 Morrill Hall. Professor Church.

53. COMPARATIVE PASTORAL POETRY. Theocritus to Mantuan. *First semester. Two credits.* (Alternate years; given in fall, 1923.) 203 Morrill Hall. Professor Church.

54. THE ROMAN NOVEL. Petronius, Trimalchio's Dinner. *Second semester. Two credits.* 203 Morrill Hall. Professor Church.

56. COMPARATIVE MYTHOLOGY. Its religious, art, and literary forms. *Second semester. Two credits.* (Alternate years; given in spring, 1921.) 203 Morrill Hall. Professor Church.

101. SEMINAR FOR GRADUATES. The study of the Roman burial formulæ, their development, and religious significance. *Both semesters. Three credits.* 203 Morrill Hall. Professor Church.

DAIRY AND POULTRY HUSBANDRY

College of Agriculture

PROFESSOR SCOTT

1. DAIRYING. The composition and secretion of milk and causes of variation in its composition; the operation of the Babcock test as applied to milk and milk products; the various methods of cream-raising, including the study of the con-

struction and operation of centrifugal separators; methods of making and marketing butter, with special reference to farm conditions, and the proper handling of milk on the farm will be discussed in the lectures. The laboratory work includes the testing of milk and other dairy products, operation of centrifugal cream separators, and the making and scoring of butter, and an observation of the essential points of the sanitary production and handling of dairy products as shown in the college barn and dairy. *Second semester. Lectures, two hours; laboratory, one period. Three credits.* 105 Agricultural Building. Professor Scott. Fee, $2; deposit, $2.

2. FARM POULTRY MANAGEMENT. Raising poultry under farm conditions. This course deals with the housing, raising of poultry, handling of stock for the market, and egg production, killing, dressing, diseases, hatching, and rearing of young chicks. It is taught with special reference to farm conditions. *First semester. Two credits.* 105 Agricultural Building. Professor Scott.

4. JUDGING AND CULLING. This course deals with all the principal breeds of poultry as given in the American Standard of Perfection, which is used as a text. The laboratory work consists of judging such poultry as can be obtained in Reno and vicinity, examination of hens to estimate production, demonstrations in marketing and caponizing. *Second semester. One lecture. one laboratory. Two credits.* 105 Agricultural Building. Professor Scott.

53. MILK PRODUCTION. Dairy husbandry in its relation to the producer of dairy products rather than the manufacturer. The lectures deal with the problems of the dairy farmer, such as adaptations of the dairy breeds, selection, management, feeding of dairy cattle, dairy barns, and calf-raising. The laboratory includes the judging of dairy cattle, visits to the local dairy farms and the observation of systems of dairy management followed by them. *Prerequisite:* Dairying 1. *First semester. Lectures, three hours; laboratory, one period. Four credits.* 105 Agricultural Building. Professor Scott.

54. BUTTER-MAKING. Laboratory practice in the manufacture of creamery butter and ice-cream. Instruction will cover sampling and testing of cream; pasteurizing and ripening of cream for butter-making, churning, with special attention to the factors that control the composition of

butter; preparing butter for the market; the preparation and use of home-made and commercial starters; creamery accounts; determining the amount of water in butter; testing for oleomargarine; manufacture of ice-cream, sherbets; ices, lacto. *Prerequisite:* Dairying 1 and Bacteriology 51. *Second semester. Lecture, one hour; laboratory, two periods. Three credits.* Dairy Building. Professor Scott. Fee, $3. (This course will not be given unless elected by five or more students.)

55. DAIRY SANITATION. This course is the application of bacteriology to the problems of the producer and consumer of milk. It deals with the fundamental principles upon which are based sanitary production and handling of milk, cream-ripening and curing of cheese, the market milk industry; the relations of milk to the public health and the important relations of butter- and cheese-making. *Prerequisite:* Dairying 1. *First semester. Lecture, two hours; laboratory, one period. Three credits.* Dairy Building. Professor Scott. Fee, $1; deposit, $3.

56. CHEESE-MAKING. A study of the comparative and characteristics of common American and European cheese. The laboratory work consists of manufacturing the common types of hard and soft cheese. *Van Slyke:* Cheese-Making. *Prerequisite:* Dairying 1, Bacteriology 51. *Second semester. Lecture, one hour; laboratory, two periods. Three credits.* Dairy Building, Professor Scott. (This course will not be given unless elected by five or more students.)

ECONOMICS AND SOCIOLOGY

ASSOCIATE PROFESSOR WILCOX

Requirements for a minor in Economics: History 1–2 or 3–4, Economics 1–2, and six units in courses 51 to 54.

Requirements for a major in Economics: History 1–2 and 3–4, Economics 1–2, and twelve units in Courses 51 to 66.

1–2. PRINCIPLES OF ECONOMICS. The economics of production, value and exchange, the medium of exchange, international trade, distribution of wealth, problems of labor, problems of economic practice; taxation. *Prerequisite:* One year of university work. *Both semesters. Three credits each semester.* 204 Stewart Hall. Associate Professor Wilcox.

4. INTRODUCTION TO ECONOMICS. A sketch course in the principles of economics designed for students in the technological colleges. Production and consumption, value and

exchange (money, banking, foreign exchange, international trade). Problems in distributive justice (labor problems and labor legislation). Economic aspects of selected public questions. *Second semester. Two credits.* 204 Stewart Hall. Associate Professor Wilcox.

5. ECONOMIC PROBLEMS IN UNITED STATES HISTORY. Introductory historical treatment of topics selected from the following list: The industrial revolution, the tariff, money and banking, public finance and taxation, land policy, the labor movement, cooperation, immigration, the railroads and government regulation. History in the light of economic determinism and of personalism. *First semester. Three credits.* Education Building. Associate Professor Wilcox.

51. PUBLIC FINANCE. Public expenditure, principles and nature of taxation, financial administration, public debts. *Prerequisite:* Economics 1–2. *First semester. Three credits.* Associate Professor Wilcox.

52. MONEY AND BANKING. A study of the problems centering around the use of money and credit. *Prerequisite:* Economics 1–2. *Second semester. Three credits.* 204 Stewart Hall. Associate Professor Wilcox.

53. INTERNATIONAL TRADE. Tariff policy of leading commercial countries, with special attention to the United States. *Prerequisite:* Economics 1–2. *First semester. Three credits.*

54. THE STATE IN RELATION TO INDUSTRY. A study of the problems centering around state and national regulation of industrial combinations and the public-service corporations. Chief attention is given to railroad transportation and to interstate trade. *Prerequisite:* Economics 1–2. *Second semester. Three credits.*

55. THE EVOLUTION OF MODERN INDUSTRY. A study of the chief stages of the growth of industry and commerce since the Eleventh Century. *First semester. Two credits.* Given when required by students whose major subject is economics.

56. HISTORY OF ECONOMIC THOUGHT. A critical review of the leading systems of economic thought since the Sixteenth Century. *Prerequisite:* Economics 1–2, and the additional units offered by a major student. *Second semester. Two credits.* Given only when required by students whose major subject is economics.

61. INTRODUCTORY TO STATISTICAL METHODS. (Higher mathematical analysis will be avoided as far as possible).

Tabulation, averages (mean, median, mode, etc.), application of the theory of probability, correlation, use of tables, calculating machines, slide rule, etc., graphical methods of presenting facts. Statistics in the service of education, business and industry. *First semester. Lecture, two hours; laboratory, one period. Three credits.* 204 Stewart Hall. Associate Professor Wilcox.

66. THE HUMAN FACTOR IN INDUSTRY. A course in employment management and welfare work in the light of recent contributions of economics and sociology. The importance of the human factor. Working and living conditions in selected industries. Vocational guidance and education of employees. Welfare work in typical companies. The human significance of scientific management. Employment management as a profession. Lectures and assigned readings. *Second semester. Three credits.* 204 Stewart Hall. Associate Professor Wilcox.

71. INTRODUCTION TO THE STUDY OF SOCIOLOGY. The social nature of man; the nature of society; social institutions; social evolution. *First semester. Three credits.* 204 Stewart Hall. Associate Professor Wilcox.

72. SOCIAL PROGRESS. A study of social organization in relation to fundamental progress. Contemporary social movements and tendencies, with special reference to the more or less conscious effort of society to control its evolution in the interest of better living. *Prerequisite:* Economics 31. *Second semester. Three credits.* 204 Stewart Hall. Associate Professor Wilcox.

74. DESCRIPTIVE SOCIOLOGY. A study of the institutional life of typical American communities with some special attention to the Intermountain West and to Nevada in particular. *Second semester. Two credits.*

81–82. ECONOMICS OF AGRICULTURE (College of Agriculture). The place of agriculture in the economic system; history of the development of modern agriculture, geographical conditions of agriculture; the factors of agricultural production in relation to farm management; farm credit, and the marketing of farm produce; rural social life. *Prerequisite:* Two years' work in the College of Agriculture. *Both semesters. Two credits each semester.*

91. ECONOMIC QUESTIONS OF TODAY. A course designed for students who are not able to take systematic work in Economics, but who wish some knowledge of what the econo-

mist has to say relative to current business and industrial problems. Among the subjects considered are the following: (1) Labor and its employment; (2) Immigration; (3) The land question; (4) Capital and its ownership; (5) The entrepreneur; (6) Money and prices; (7) Public regulation of industry; (8) Economic aspects of the war. Lectures and assigned readings. *First semester. One credit.*

EDUCATION

PROFESSOR HALL
ASSOCIATE PROFESSOR TRANER
MISS DIEHM
MISS DETRAZ
MR. BILLINGHURST

Cooperating Teachers

MISS BELL
MISS CAGWIN
MISS FOSTER
MISS LANGFORD
MRS. LOOMIS
MISS MEREDITH
MR. PALMER
MISS WHITE
Elementary-School Teachers (to be selected)

Requirements for a minor in Education: Psychology 5 and 10; Education 60, 61, 63, 71, 75, 76.

Requirements for a major in Education: Psychology 5 and 10; Education 60, 61, 63, 71, 75, 76, and ten to twelve additional credits, depending upon the aim in view.

20. PRINCIPLES OF TEACHING. For teachers in elementary schools. A study of the various types of classroom teaching to discover the principles of selection, organization and presentation of subject-matter to children of the first six grades. *First year, second semester. Three credits.* 105 Education Building. Professor Hall.

23. PROBLEMS IN RURAL EDUCATION. A survey of Nevada school conditions, the need of Nevada rural communities, and the opportunity and responsibility of the rural teacher for leadership among both children and adults are among the more important topics studied. *First year, first semester. Two credits.* 104 Education Building. Associate Professor Traner.

24. SCHOOL MANAGEMENT, LAW, AND HYGIENE. A consideration of the fundamental facts of school law and the fundamental problems of school organization and school hygiene from the point of view of the teacher in the ele-

mentary school. *Second year, second semester. One credit.* 105 Education Building. Mr. Billinghurst.

25. OBSERVATION OF TEACHING. Observation and discussion of specific classroom work as a preparation for practice teaching. *First year, first semester. One credit.* Public School. Miss Detraz.

28. PRACTICE TEACHING AND GROUP CONFERENCES. The selection and organization of subject-matter and the technique of teaching. *One hour a day, five days a week. Second year, second semester. Five credits.* 104 Education Building and Public Schools. Professor Hall and Miss Detraz.

29. PRACTICE TEACHING AND GROUP CONFERENCES. Continuation of Education 28. *One hour a day, five days a week. First semester of second year. Five credits.* 104 Education Building and Public Schools. Professor Hall and Miss Detraz.

31. THE TEACHING OF ARITHMETIC. A study of the modern aims in teaching arithmetic; of the effect of these aims on the selection and organization of arithmetic material for the different grades; and of the presentation of this material. *First semester of first year. Three credits.* Education Building. Miss Detraz.

34. THE TEACHING OF ENGLISH. Principles underlying the selection, organization and presentation of subject-matter for the first four grades and the study of children's literature for these grades. *Second semester. Three credits.* 104 Education Building. Miss Detraz.

35. THE TEACHING OF ENGLISH. Principles underlying the selection, organization and presentation of subject-matter for grades 5 to 8 and the study of children's literature for these grades. *First semester. Three credits.* Education Building. Miss Detraz.

37. THE TEACHING OF GEOGRAPHY. A study of the modern aims in teaching geography, with discussion of the selection, organization and presentation of suitable geographical material for the different grades. *First semester. Two credits.* Education Building. Associate Professor Traner.

41. KINDERGARTEN METHODS FOR PRIMARY TEACHERS. *Second semester. One credit.* 104 Education Building. Miss Detraz.

42. THE TEACHING OF HISTORY AND CIVICS. A considera-

tion of the aims of teaching history and civics and the effect of these aims on the selection, organization and presentation of subject-matter suitable for the grades. *Second semester. Three credits.* 104 Education Building. Miss Detraz.

48. EDUCATIONAL TESTS AND MEASUREMENTS. This course will consider the most serviceable tests and scales for measuring the elementary subjects. It is designed to assist teachers in judging and improving their instruction. The course will involve giving the tests, scoring, and interpreting the results. *Second semester. One credit.* 104 Education Building. Associate Professor Traner.

60. PROBLEMS OF SECONDARY EDUCATION. The course will involve a study of the significance and aims of the American high school as compared with European secondary schools and with professional or trade schools of secondary grade; the place of the high school in the public-school system; the junior high school; the high-school curriculum; and legal provisions for the high school and its support in Nevada. *Second semester. Three credits.* 104 Education Building. Associate Professor Traner.

61. HISTORY OF SECONDARY EDUCATION. A study of the evolution of secondary schools. Not open to Freshmen. *First semester. Two credits.* 210 Education Building. Professor Young.

63. SCHOOL MANAGEMENT, LAW, AND HYGIENE. A consideration of the fundamental facts of school law and the fundamental problems of school organization and school hygiene from the point of view of the teacher in the secondary school. *First semester. One credit.* 105 Education Building. Mr. Billinghurst.

65. METHODS OF TEACHING HOME ECONOMICS. Curricula, equipment, and methods of teaching, with observation, making lesson plans, outlines for courses adapted to various needs. Open to Seniors only. *Prerequisite:* Home Economics 56, 66. *First semester. Lectures, two hours. Two credits.* 206 Agricultural Building. Miss Campiglia.

71. PRINCIPLES OF TEACHING. For teachers in secondary schools. A study of the various types of classroom teaching to discover the principles of selection, organization and presentation of subject-matter in secondary schools. To be taken in the Senior year. *First semester. Three credits.* 105 Education Building. Professor Hall.

75. PRACTICE TEACHING. For teachers in secondary

schools. This work will be done in Grades 7 to 12 of the Reno Public Schools under the direction of the Professor of Secondary Education and under the immediate supervision of the teacher in charge. Students must reserve two consecutive periods on Tuesday and Thursday forenoons and one period on Monday and Wednesday afternoons for this work. *First semester. Two credits.* Education Building and Public Schools. Associate Professor Traner, Professor Hall, and High-School Teachers.

76. PRACTICE TEACHING. For teachers in secondary schools. Continuation of Education 75. Students must reserve two consecutive periods on Tuesday and Thursday forenoons and one period on Monday and Wednesday afternoons for this work. *Second semester. Two credits.* Associate Professor Traner. Professor Hall and High-School Teachers.

COURSES OFFERED PRIMARILY FOR TEACHERS IN SERVICE

Time and place according to the convenience of the teachers. No fees for teachers in service.

101–102. RESEARCH COURSE IN SECONDARY EDUCATION. Primarily for Senior and graduate students. *Either semester. One credit.* Associate Professor Traner. Given upon request of a sufficient number of teachers.

105–106. PROBLEMS IN ELEMENTARY TEACHING. Given upon request of a sufficient number of teachers. *Either semester. One credit.* 105 Education Building. Professor Hall and Miss Detraz.

121–122. SCHOOL SUPERVISION. A course intended for school principals and superintendents, and all those who look forward to supervisory work. *One semester or both. One credit each semester.* 105 Education Building. Professor Hall. Given only upon request of a sufficient number of teachers.

Music

MISS DIEHM

Requirements for a minor in Music: Music 1–2 or 5–6, 11–12, 50–51, 52 and 54–55.

NOTE—The courses of the department are of two kinds: (a) A course in public-school music for those who intend to teach (Music 1–2 and 5–6); (b) Courses involving the study of music from scientific, historical, and interpretative view-points (Music 50–51, 52 and 54–55). Courses 1–2 and 5–6 should be taken in the Freshman and Sophomore years; other courses may be taken in any year of college residence.

1–2. ELEMENTS OF MUSIC. Notation and terminology; intervals, triads, chords of the seventh; sight-singing; ear-

training. *Both semesters. One credit each semester.* Education Building. Miss Diehm.

5. METHODS. The presentation and illustration through class work of elementary and advanced musical problems in order; care of child voice; use of phonograph in schoolroom music; interpretation of songs; the principles of conducting; music outlines for graded and ungraded schools; practice teaching in public schools of Reno. *Prerequisite:* Music 1–2. *First semester. Two credits.* Education Building. Miss Diehm.

11–12. GLEE CLUB. Membership open to all women students of musical ability who can pass entrance requirements. Examinations given by special appointment. Concerts of serious and dignified music are given at various times during the year. *Both semesters. One credit each semester.* Education Building. Miss Diehm.

15–16. ORCHESTRA. *Both semesters. One credit each semester.* Education Building. Miss Diehm.

50–51. HARMONY. The review of major and minor scales; intervals and triads; chord analysis of simple hymns; connection and inversion of primary and secondary triads; cadences, chord of the dominant seventh and its inversion; simple keyboard harmonization; construction and harmonization of original melodies; harmonization of given basses and melodies; ear recognition and practice in naming chords as illustrated at the piano. *Prerequisite:* Music 1–2. *Both semesters. Three credits each semester.* Education Building. Miss Diehm.

52. HARMONY, ADVANCED. The study of secondary seventh chords and their inversions; altered chords; accidental chord formations; modulations; chord analysis by ear and eye; analysis of all musical forms from the simplest to the most complex. *Prerequisite:* Music 50–51. *First semester. Three credits.* Education Building. Miss Diehm.

54–55. GLEE CLUB. (See Music 11–12.) *Second year.*

57. HISTORY OF MUSIC, AND APPRECIATION. Lecture course with collateral readings. Outlines of the evolution of music by periods; lives of composers, music of the various periods and in all the different forms, illustrated with the Victrola. *Second semester. Two credits.* Education Building. Miss Diehm.

59–60. ORCHESTRA. *Both semesters. One credit each semester.* Education Building. Miss Diehm.

ELECTRICAL ENGINEERING

College of Engineering

PROFESSOR PALMER
MR. KENT

51. DIRECT-CURRENT MACHINERY. The fundamental principles, theory, characteristics, operation, and construction of dynamos, motors, storage batteries, etc., supplemented by electrical problems. *First semester. Three credits.* Electrical Building. Mr. Kent.

52. ALTERNATING-CURRENT MACHINERY. Theory and application of alternating currents in electrical circuits and machinery; representation of alternating currents by vectors and by complex quantities. *Second semester. Three credits.* Electrical Building. Professor Palmer.

53. ADVANCED ALTERNATING CURRENTS. A continuation of the preceding course, taking up the more advanced problems in the application of electrical machinery. *First semester. Three credits.* Electrical Building. Professor Palmer.

54. ELECTRIC RAILWAYS. Covers the construction, equipment, and operation of different types of electric roads and electrification of steam roads. Elective for Senior electrical students. *Second semester. Two credits.* Electrical Building. Professor Palmer.

55–56. ELECTRICAL PROBLEMS. A course of electrical engineering problems for Senior electrical students; requires a knowledge of trigonometry, calculus, vectors, complex quantities, alternating-current circuits, etc. *Both semesters. One or two credits each semester.* Electrical Building. Professor Palmer.

58. ELECTRICAL DESIGN. Covers the calculations involved in the design of electrical machinery. *Prerequisite:* E. E. 52 and 53. *Second semester. Three credits.* Electrical Building. Mr. Kent.

59. PRINCIPLES AND PRACTICE OF ELECTRICAL ENGINEERING. An abbreviated electrical course especially designed for mining and other engineering students who have but limited time to spend upon this subject. Covers the fundamental principles governing the application of electricity. *First semester. Two credits.* Electrical Building. Professor Palmer.

60. ELECTRICAL ENGINEERING LABORATORY. A practical course for mining and civil engineering students. This course is designed to supplement lecture course 59. *First semester.*

One credit. Electrical Building. Professor Palmer. Fee, $2.50; deposit, $2.50.

61–62. ELECTRICAL ENGINEERING LABORATORY. Instruction in the use and care of electrical measuring instruments. Elementary tests on direct- and alternating-current machinery. *Prerequisite:* Physics 6. *Both semesters. Lecture, one hour; laboratory, one period. Two credits each semester.* Electrical Building. Professor Palmer. Fee, $2.50; deposit, $5.

63–64. ELECTRICAL ENGINEERING LABORATORY, ADVANCED COURSE. This course is a continuation of the preceding one, but deals with more advanced problems in electrical testing. *Both semesters. Lecture, one hour; laboratory, two periods. Three credits.* Electrical Building. Professor Palmer. Fee, $2.50; deposit, $5.

ENGLISH LANGUAGE AND LITERATURE

PROFESSOR H. W. HILL
PROFESSOR A. E. HILL
ASSOCIATE PROFESSOR TURNER
MISS SHADE

Requirements for a minor in English: English 44–45, 78, 94, and six additional units in courses 51 to 100.

Requirements for a major in English: English 44–45, 78, 94, and twelve additional units in courses 51 to 100.

Requirements for a teacher's recommendation in English: a major or a minor with an average grade of not less than 2 in the department.

0–0. COMPOSITION AND RHETORIC. A course designed for students who are not equipped to pursue English 1–2. *Both semesters. No credits.* 201 Stewart Hall. Associate Professor Turner.

1–2. COMPOSITION AND RHETORIC. The theory of rhetoric is developed from the study and analysis of English prose masterpieces, and the principles thus established are applied in daily and weekly themes. *Three sections. Both semesters. Three credits each semester.* 206 Stewart Hall. Professor A. E. Hill and Associate Professor Turner.

3. ADVANCED COMPOSITION. The study and practice of exposition, description, and narration. In this and the following course the aim is to develop the individual needs of the student, as well as to give him general training in writing. *Prerequisite:* English 1–2. *First semester. Three credits.* 206 Stewart Hall. Professor A. E. Hill.

4. ADVANCED COMPOSITION. The study and practice of one

of the forms of discourse. *Prerequisite:* English 1–2 and 3. *Second semester. Three credits.* 206 Stewart Hall. Professor A. E. Hill.

11–12. PUBLIC SPEAKING. The study of principles of effective speaking, voice building, and gesture. The presentation of original speeches before the class, illustrating the different forms of public address. *Both semesters. Two credits each semester.* 201 Stewart Hall. Associate Professor Turner.

13–14. ADVANCED PUBLIC SPEAKING. The study of great speeches with the preparation and presentation of formal addresses. Lectures and required reading. *Prerequisite:* English 11–12. *Both semesters. One credit each semester.* 201 Stewart Hall. Associate Professor Turner.

16–17. ARGUMENTATION. The discussion of the principles of argumentation. The preparation of briefs and the presentation of arguments. *Both semesters. Two credits each semester.* 201 Stewart Hall. Associate Professor Turner.

18–19. PRINCIPLES OF ARGUMENTATION. Oral discussions of economic, historical, political, and sociological questions. Weekly debates, preceded by briefs, in which each member takes part three times as principal speaker. Open to students who have completed course 16–17, and to others by special consent. *Both semesters. Two credits each semester.* 201 Stewart Hall. Associate Professor Turner.

21–22. EXPRESSION. Oral interpretation of the best literature. Sight reading. Exercises in vocal culture, breathing, position, and gesture. *Both semesters. Two credits each semester.* 201 Stewart Hall. Associate Professor Turner.

23–24. ADVANCED EXPRESSION. The interpretation of selections from the best literature for public presentation, the laws of public reading and speaking, tone modulation, and strengthening of the vocal organs. Abridgment and arrangement of selections. *Both semesters. One credit each semester.* 201 Stewart Hall. Associate Professor Turner.

44–45. GENERAL HISTORY OF ENGLISH LITERATURE. The study of literary movements and the interpretation of representative authors. Lectures, assigned readings, and weekly themes. *Prerequisite:* English 1–2. *Both semesters. Three credits each semester.* Stewart Hall. Professor H. W. Hill.

51–52. THE SHORT STORY. The study of the short story as a type, and practice in writing short stories. *Prerequisite:*

English 1–2, 3, and 4. (Not given in 1921–1922.) 206 Stewart Hall. Professor A. E. Hill.

65. GENERAL LITERATURE. A general survey of literature. Lectures, assigned readings, and oral discussion. *Prerequisite:* English 1–2. *Second semester. One credit.* 202 Stewart Hall. Professor H. W. Hill.

66–67. TYPES OF ENGLISH PROSE LITERATURE.[1] The study of representative specimens of the novel, the short story, the modern play, the essay, and the oration with a view of determining their essential differences, the principles of criticism, and the methods of approach. *Prerequisite:* English 44–45. *Both semesters. Three credits each semester.* 202 Stewart Hall. Professor H. W. Hill.

68–69. THE ENGLISH NOVEL. The study of the development of the novel from the early Nineteenth Century to the present day. *Both semesters. Three credits each semester.* 206 Stewart Hall. Professor A. E. Hill.

70–71. AMERICAN LITERATURE. The study of American prose and poetry from the beginning of the Nineteenth Century to the present time. *Both semesters. Three credits each semester.* (Not given in 1921–1922.) 206 Stewart Hall. Professor A. E. Hill.

72–73. THE MODERN DRAMA. Ibsen, Maeterlinck, Pinero, Shaw, and other contemporary dramatists. *Prerequisite:* English 44–45. *Both semesters. Three credits each semester.* (Not given in 1921–1922.) 202 Stewart Hall. Professor H. W. Hill.

75–76. SHAKESPEARE. The interpretation of six plays. *Prerequisite:* English 44–45. *Both semesters. Three credits each semester.* 202 Stewart Hall. Professor H. W. Hill.

78. MILTON. Minor poems and Paradise Lost. *Prerequisite:* English 44–45. *Second semester. Three credits.* 202 Stewart Hall. Professor H. W. Hill.

79. WORDSWORTH AND COLERIDGE. The study of the chief writings of Wordsworth and Coleridge, accompanied by a brief survey of the period. *Prerequisite:* English 44–45. *First semester. Three credits.* (Not given in 1921–1922.) 202 Stewart Hall. Professor H. W. Hill.

80. TENNYSON AND BROWNING. The study of the chief writings of Tennyson and Browning, with special emphasis

[1]Open only to students with a general average of 2 or better.

on the "Idylls of the King," and "The Ring and the Book." *Prerequisite:* English 44–45. *Second semester. Three credits.* (Not given in 1921–1922.) 202 Stewart Hall. Professor H. W. Hill.

91. OLD ENGLISH. Grammar and reading of simple prose and verse. *Prerequisite:* English 1–2 and 4. *First semester. Three credits.* (Not given in 1921–1922) 202 Stewart Hall. Professor H. W. Hill.

92. BEOWULF. *Prerequisite:* English 44–45 and 91. *Second semester. Three credits.* (Not given in 1921–1922.) 202 Stewart Hall. Professor H. W. Hill.

93. EARLY MIDDLE ENGLISH. Grammar and reading of selections equivalent to Emerson's Middle English Reader. *Prerequisite:* English 4. *Second semester. Three credits.* (Not given in 1921–1922.) 202 Stewart Hall. Professor H. W. Hill.

94. CHAUCER. The Canterbury Tales. *Prerequisite:* English 44–45. *First semester. Three credits.* 202 Stewart Hall. Professor H. W. Hill.

100. SEMINAR FOR UNDERGRADUATES. Both semesters. Hours to be arranged with individual students. *One credit each semester.* Library. Professor H. W. Hill.

GEOLOGY

PROFESSOR JONES

Requirements for a minor in Geology: Physics 1–2 (unless Physics is offered for admission), Chemistry 1 and 3 (unless Chemistry is offered for admission), Mineralogy 1, Geology 3, 4, and six additional units in Junior-Senior courses.

Requirements for a major in Geology: Physics 1–2 or 3–4 and 5–6, Chemistry 1, 3, and 4, or 5, 6, and 7, Mineralogy 1, 2, and 3, Geology 3 and 4, and twelve additional units in Junior-Senior courses.

Students expecting to follow Geology as their life work should consult with the head of the department as early as possible in their course and plan their work so as to lay an adequate foundation for further work in their specialty in a graduate school.

3. GENERAL GEOLOGY. A general discussion of geologic forces and their results, dealing chiefly with the dynamic and structural aspect of the subject. *Prerequisite:* Elementary Physics and Chemistry. *First semester. Three credits.* Mackay School of Mines. Professor Jones.

4. HISTORICAL GEOLOGY. An outline of the origin and history of the earth, including the diastrophic changes, stratigraphic relationships, and the description of the phys-

ical geography and life of the successive geological periods, with special reference to the North American Continent. *Second semester. Three credits.* Mackay School of Mines. Professor Jones.

51. PETROLOGY. The study of rock-forming minerals and rocks in the hand specimen. Lectures on the characters, origin, and classification of rocks. *Prerequisite.* Geology 3, Mineralogy 1, 2, and 3. *First semester. Two credits.* Mackay School of Mines. Professor Jones.

52. PETROGRAPHY. The study of rock-forming minerals and rocks under the microscope. *Prerequisite:* Geology 51, Physics 1–2 or 3–4. *Second semester. Two credits.* Mackay School of Mines. Professor Jones. Deposit, $5.

60. ECONOMIC GEOLOGY. A general course treating of the mode of occurrence, distribution, origin, and distinctive features of mineral deposits, with descriptions of typical examples from important mining regions. *Prerequisite:* Geology 3, 4, and 51. *Second semester. Three credits.* Mackay School of Mines. Professor Jones.

61. ECONOMIC GEOLOGY, Advanced Course (College of Engineering). The geology of metalliferous ore deposits treating of the mode of occurrence, origin, alteration, and distribution, with a study of the more important mining camps in North America. Lectures and assigned readings. *Prerequisite:* Geology 60. *First semester. Three credits.* Mackay School of Mines. Professor Jones.

70. FIELD GEOLOGY. Instruction in field methods, with actual practice in the investigation of a selected area. Five days of field work are devoted to the mapping of some area in the vicinity of the University. *Prerequisite:* Geology 3. *Second semester. One credit.* Professor Jones.

71. FIELD GEOLOGY (College of Engineering). Two weeks are spent during the summer vacation in the mapping and study of some selected area, preferably some mining camp where both the surface and underground geology may be investigated. A concise report of the work, together with well-kept field notes, a finished geological map, and cross-sections, is required of each member of the class. Occasional lectures on the theoretical aspects of the work are also given. *Prerequisite:* Geology 3, 4, 51, 52, and 70. *Two credits.* Professor Jones.

80. GEOLOGICAL INVESTIGATION. Original investigation of some geological problem. *Prerequisite:* Geology 3, 4, 51,

52, and 60, or equivalent training. *Both semesters. Credits to be arranged.* Mackay School of Mines. Professor Jones.

101. GRADUATE COURSE (College of Engineering). The original investigation of geologic problems, with seminar for discussion of current geologic literature and special topics. *Credits to be arranged.* Mackay School of Mines. Professor Jones.

GERMAN

ASSOCIATE PROFESSOR RIEGELHUTH

Requirements for a minor in German: With no admission credit—German 1–2, 3–4, 5–6, and six units in courses 51 to 80; with two admission credits—German 3–4 and ten units in courses 51 to 80; with four admission credits—twelve units in courses 51 to 80.

Requirements for a major in German: With no admission credit—German 1–2, 3–4, 5–6 and twelve units in courses 51 to 80; with two admission credits—German 3–4, 5–6, and sixteen units in courses 51 to 80; with four admission credits—sixteen units in courses 51 to 80.

Requirements for a teacher's recommendation in German: a major or a minor with German 60 (optional for a minor).

Students intending to take a major or a minor in German are advised to elect 7–8, if they have not a thorough grasp of the elements of German.

1–2. ELEMENTARY GERMAN. Systematic study of German grammar with particular attention to pronunciation and oral expression. Selected readings in easy prose and verse. *Both semesters. Eight credits for the year. Total course only accepted toward graduation.* 104 Stewart Hall. Associate Professor Riegelhuth.

3–4. INTERMEDIATE GERMAN. Modern narrative and descriptive prose. Selected lyrics and ballads. Colloquial practice based on texts. *Prerequisite:* German 1–2, or two years of high-school German. *Both semesters. Two credits each semester.* Course 3–4 without course 5–6 is not accepted toward graduation. 104 Stewart Hall. Associate Professor Riegelhuth.

5–6. COMPOSITION. Oral and written composition. *Prerequisite:* German 1–2, or two years of high-school German. *Both semesters. One credit each semester.* 104 Stewart Hall. Associate Professor Riegelhuth.

7–8. ADVANCED COMPOSITION. Colloquial practice; written and oral composition with some study of German prose style. (Advised for majors and minors.) *Prerequisite:* German 1–2 and 3–4 or the equivalent. *Both semesters. One credit each semester.* 104 Stewart Hall. Associate Professor Riegelhuth.

19–20. SCIENTIFIC GERMAN. Reading and selections from

text-books on various sciences. In the second semester attention will be given to scientific essays and the less technical periodicals. *Prerequisite:* At least German 1–2 or two or three years of high-school German. *Both semesters. Two credits each semester.* 104 Stewart Hall. Associate Professor Riegelhuth.

51–52. INTRODUCTION TO THE CLASSICS. German drama to the Nineteenth Century. Reading and technical study of representative works of Lessing, Schiller, and Goethe. Collateral reading and class reports on the life and works of these authors. *Prerequisite:* German 1–2 and 3–4, or the equivalent. *Both semesters. Three credits each semester.* Alternates with 53–54. 104 Stewart Hall. Associate Professor Riegelhuth.

53–54. THE GERMAN NOVEL. Study of the Roman and Novelle types of fiction. Critical reading and discussion of representative works of such writers as Freytag, Storm, Riehl, Meyer, Keller, Sudermann, etc. *Prerequisite:* German 3–4, or its equivalent. *Both semesters. Two credits each semester.* 104 Stewart Hall. Associate Professor Riegelhuth.

55–56. HISTORY OF GERMAN LITERATURE. Lectures and collateral reading. Study of selections from German literature from its earliest beginnings to the Nineteenth Century, with particular attention to the development of the main tendencies and forms. Class reports and themes. *Prerequisite:* German 51–52, 53–54, or the equivalent. *Both semesters. Three credits each semester.* Alternates with 57–59. 104 Stewart Hall. Associate Professor Riegelhuth.

57–58. NINETEENTH-CENTURY DRAMA. Plays significant in the development of modern German drama by such authors as von Kleist, Grillparzer, Hebbel, and Hauptmann will be read and discussed. Three themes each semester. *Prerequisite:* German 51–52, 53–54, or the equivalent. *Both semesters. Three credits each semester.* Associate Professor Riegelhuth.

HISTORY AND POLITICAL SCIENCE

PROFESSOR WIER
ASSISTANT PROFESSOR FEEMSTER

Requirements for a minor in History: History 1–2, 3–4, and six units in advanced history courses.

Requirements for a major in History: History 1–2, 3–4, and twelve units in advanced history courses.

Requirements for a teacher's recommendation in History: a major or a minor, including History 51 and 55–56.

Requirements for a minor in Political Science: History 1–2, Political Science, 1–2, and six units from courses 51–64.

Requirements for a major in Political Science: History 1–2, 3–4, Political Science 1–2, and twelve units from courses 51–70.

Majors or minors in History are advised to take not less than six units each in Political Science and Economics. Majors and minors in Political Science are advised to take further work in History and Economics.

High-school courses in History and Civil Government will not be counted toward the fulfilment of the requirements given above except as a student may prove by superior work in class that such high-school work is the equivalent in information and discipline of the corresponding college courses.

History 1–2 and 3–4 are designed to lay a foundation for the advanced courses in History and Political Science. History 1–2 is prerequisite to all other courses.

History

1–2. EUROPEAN CIVILIZATION. The development of western civilization in Europe from the Roman Empire to the present time. Designed to furnish perspective for the understanding of the present-day world. Total course only accepted toward graduation. *Both semesters. Three credits each semester.* 101 Stewart Hall. Professor Wier and .....

3–4. AMERICAN EXPANSION. Against a broad European background the spread of civilization in America will be traced. The development of each geographical section will be presented and the relation shown of each section to America as a whole. Culmination of the study will be found in a survey of the Great Basin and the place of Nevada in that basin. The course will deal in a comprehensive way with the large movements of a political, economic and social nature in the New World. It is intended to give a new and large American perspective. *Both semesters. Three credits each semester.* 101 Stewart Hall. Professor Wier.

51. THE TEACHING OF HISTORY. A study of the aims, methods, and materials for history teaching in secondary schools and colleges. *First semester. Two credits.* 101 Stewart Hall. Professor Wier.

53. INSTITUTIONAL RELATIONS OF WOMAN IN HISTORY. A study of woman's characteristics in relation to social and industrial life both in past centuries and at the present time. Especial emphasis on the vocations now open to women and the significance of college education in preparation for the same. Lectures on various vocations will be given by representatives of these professions and industries. Open to Fresh-

men women, as well as to all other women students. *First semester. Two credits.* 101 Stewart Hall. Professor Wier.

54. HISTORICAL GEOGRAPHY. The movements of population as influenced by geographical factors. Traces political development, particularly of Eurasia, and familiarizes the student with the map. Adapted to the needs of Normal students. *Second semester. Three credits.* 101 Stewart Hall. Professor Wier. (Given in 1922–1923.)

55–56. WESTWARD EXPANSION OF THE UNITED STATES. A study of the westward movement from the Atlantic to the Pacific and of the continuous influence of the West upon national and international affairs. Particular attention will be given to the political, economic, and social aspects of the occupation of the various sections. *Both semesters. Two credits each semester.* 101 Stewart Hall. Professor Wier.

57–58. HISTORY OF WESTERN AMERICA. The study of the development of the Pacific Slope during the Spanish, Mexican, and early American periods. Comparison made with Atlantic Coast development. Study of legal and other institutions. Important as introduction to history of Nevada. *Both semesters. Two credits each semester.* 101 Stewart Hall. Professor Wier. (Given in 1922–1923 on sufficient demand.)

59–60. LATIN AMERICA. This course will comprise an examination of representative States of South and Central America; their struggle for stability, their relations to each other and to the United States. Library readings will be assigned in the industrial development of Latin America and in the social and cultural character of Spanish-American civilization. Recommended for students of Spanish. *Both semesters. Two credits each semester.* 105 Stewart Hall. Assistant Professor Feemster.

65–66. RESEARCH COURSE IN NEVADA HISTORY. A course designed to train students in research methods and at the same time give knowledge of Nevada history. *Both semesters. Credit to be arranged.* 101 Stewart Hall. Professor Wier.

71–72. ANCIENT CIVILIZATION. A study of the rise of the institutions of civilization, of nationality, and of empire, culminating in Imperial Rome. This course is designed for those preparing to teach History or Latin, for classical students, and for all who desire a collegiate course in ancient civilization. *Both semesters. Two credits each semester.* 105

Stewart Hall. Assistant Professor Feemster. (Given in 1922–1923.)

73–74. HISTORY OF ANCIENT INSTITUTIONS. A historical and comparative study of the legal systems of the oriental and classical nations. Important for legal students. *Both semesters. One, two, or three credits each semester.* 105 Stewart Hall. Assistant Professor Feemster. (Given in 1922–1923.)

76. MEDIEVAL CIVILIZATION AND INSTITUTIONS. A study of the feudal system, the system of universal monarchy as embodied in the Holy Roman Empire, of the Church as the controlling force, etc. *Second semester. Three credits.* 101 Stewart Hall. Professor Wier.

77. THE RENAISSANCE. From the fall of Constantinople to the sack of Rome. This course aims to trace the rise of the modern spirit and institutions out of ancient and medieval world. Special lectures and assignments will be given upon such topics as painting, architecture, printing, navigation, the great men and masterpieces of the period, the foundation of modern languages and sciences. *First semester. Two credits.* 105 Stewart Hall. Assistant Professor Feemster. (Given in 1922–1923 on sufficient demand.)

78. THE REFORMATION. A continuation of the previous course to the Peace of Westphalia, and the foundation of the present-day national state system. The course will trace in historic sequence the main movements comprising the Spanish reformation, the Papal state, the Lutheran revolt, Council of Trent, the Spanish Empire, the revolt of the Netherlands, Anglo-Dutch sea power, the Elizabethan Age, The Thirty Years' War, Westphalia, Grotius, and the foundation of international law. Special assignments will be made upon chosen topics. *Second semester. Two credits.* 105 Stewart Hall. Assistant Professor Feemster. (Given in 1922–1923 on sufficient demand.)

79–80. THE FRENCH REVOLUTION. Its causes and constitutional experiments. Studied from the European and American standpoint rather than as a French local crisis. *Both semesters. Two credits each semester.* 101 Stewart Hall. Professor Wier. (Given in 1922–1923.)

83. RUSSIA AND HER NEIGHBORS. The course is essentially

a study of modern Russia in the light of historical development. A standard work like Wallace is read and applied to Russia of today as a method of approaching the present Russian enigma. *First semester. Two credits.* 105 Stewart Hall. Assistant Professor Feemster. (Given on demand of five students in 1921–1922.)

84. CHINA AND HER NEIGHBORS. A study of Chinese history, with emphasis upon the modern period. China's struggle for territorial integrity and for republican institutions, with American responsibility and opportunity therein, is the main theme of the course. *Second semester. Two credits.* 105 Stewart Hall. Assistant Professor Feemster. (Given on demand of five students in 1921–1922.)

85–86. COLONIAL EXPANSION. The history of the colonial acquisitions of the great nations and a comparative study of institutions developed therein, with special emphasis upon the United States. *Both semesters. Two credits each semester.* 101 Stewart Hall. Professor Wier.

87–88. MEDIEVAL CONSTITUTIONAL HISTORY. A study of the rise of the English constitution out of the institutions of the medieval world. Comparison will be made with the contemporary institutions of the church, the Holy Roman Empire and the early French monarchy. *Both semesters. Three credits each semester.* 105 Stewart Hall. Assistant Professor Feemster.

89–90. MODERN CONSTITUTIONAL HISTORY. A detailed examination of the founding of the United States of America. The movement will be compared with the contemporary constitutional efforts in Poland and the first French Republic. *Both semesters. Three credits each semester.* 105 Stewart Hall. Assistant Professor Feemster. (Given in 1922–1923 on sufficient demand.)

91. THE TWENTIETH CENTURY: THE RIVALRY OF THE NATIONS. An intensive prewar study. Not given for less than five students. Open to History majors and minors and those specially qualified. The course will trace world movements from the Spanish-American War to the outbreak of the War of 1914. *First semester. Two credits.* 105 Stewart Hall. Assistant Professor Feemster. (Given in 1922–1923.)

92. THE TWENTIETH CENTURY: THE STRUGGLE OF THE

NATIONS. A continuation of course 91. A critical study of war history and war historians, with source studies on selected topics. *Second semester. Two credits.* Assistant Professor Feemster. (Given in 1922–1923.)

99–100. HISTORY THESIS WORK. *Both semesters. Credits to be arranged.* 101 Stewart Hall. Professor Wier.

Political Science

1–2. COMPARATIVE GOVERNMENT. This course is to be regarded as introductory to the other courses in the department and is practically a prerequisite to them. A survey is made of the structure and chief features of the practical operation of the governmental systems of the United States, England, the leading countries of Europe, and certain typical countries of South America. *Both semesters. Six credits for the year.* (Total course only accepted for graduation.) 105 Stewart Hall. Assistant Professor Feemster.

51. STATE GOVERNMENT IN THE UNITED STATES. A survey of the structure and workings of state governments and the political activities of the electorate, especially under recent conditions. *First semester. Three credits.* (Given in 1922–1923.)

53. MUNICIPAL GOVERNMENT. An introduction to the problems, both of government and administration, which confront the municipalities of the United States. Reference is also made throughout to European experience. *First semester. Three credits.* 105 Stewart Hall. Assistant Professor Feemster.

55. THE BRITISH COMMONWEALTH OF NATIONS. *First semester. Two credits.* (Not given in 1921–1922.)

56. CONTEMPORARY INTERNATIONAL RELATIONS. *Second semester. Two credits.* (Not given in 1921–1922.)

62. THE CONGRESS OF THE UNITED STATES. A comparatively intensive study of the organization and procedure of the national legislature of the United States. *Second semester. Three credits.* (Given in 1922–1923.)

64. INTERNATIONAL LAW. An elementary study of the principal topics, accompanied by examination of leading cases. *Second semester. Three credits.* 105 Stewart Hall. Assistant Professor Feemster.

HOME ECONOMICS

College of Agriculture

PROFESSOR LEWIS
ASSISTANT PROFESSOR POPE
MISS CAMPIGLIA
[1]MISS JOHNSON
[1]MISS BARKER

3. MARKETING. This course deals with problems of purchasing household and food supplies; discusses the sources of supply, season, prices, and pure-food laws. Excursions to markets, packing-houses, and factories will be made. *First semester. Laboratory, one period. One credit.* 109 Agricultural Building. Professor Lewis.

9. GENERAL HOME ECONOMICS. A brief survey of Home Economics subjects, including clothing and textiles, school lunches, boys and girls club work, and home nursing. Especially adapted for Normal-school students. *First semester. Lecture, one hour; laboratory, two periods. Three credits.* 203' Agricultural Building. Professor Lewis and Assistant Professor Pope. Fee, $2; deposit, $1.

15. ELEMENTARY CLOTHING. Making of dress forms. Drafting patterns for waist, sleeve and skirt. Designing and making patterns from drafted ones for underwear. Learning construction stitches and use of sewing-machine attachments and making the practical application of them. No credit given without H. E. 18. *First semester. Laboratory, two periods. Two credits.* 204 Agricultural Building. Assistant Professor Pope. Fee, $2; deposit, $1.

16. TEXTILES AND DESIGN. A study of textile fibers, processes of the manufacture of fabrics, simple tests; comparison and identification of manufactured products. The study of color and design as adapted to house and clothing. *Second semester. Lectures, two hours. Two credits.* 204 Agricultural Building. Assistant Professor Pope. Fee, $2; deposit, $1.

18. CONTINUATION OF H. E. 15. Adapting commercial patterns to taste and suitability. Designing garments for different type figures and individuals. *Prerequisite:* H. E. 15. *Second semester. Laboratory, two periods. Two credits.* 204 Agricultural Building. Assistant Professor Pope. Fee, $2; deposit, $1.

26. HOUSEHOLD ADMINISTRATION. A study of scientific

[1]Members of Agricultural Extension Staff.

principles and business methods applied to the home, including efficiency, a study of standards of housekeeping, system in housework, home life, the apportionment of time, money, and service. *Prerequisite:* Home Economics 1–2. *Second semester. Three credits.* 109 Agricultural Building. Professor Lewis.

31–32. ELEMENTARY COOKERY. A study of foods from the standpoint of their composition, economy, selection, preparation and use. *Both semesters. Laboratory, two periods; lecture, one hour. Three credits each semester.* Credit not given for one semester only. 203 Agricultural Building. Assistant Professor Pope. Fee, $5; deposit, $1.

45. WEAVING. The study of such phases of decorative art as involve application of the principles of color, design and form, to hand-woven household products made from reed, raffia, sweet grass, pine needles, crepe paper, cord, and thread. *First semester. Laboratory, two periods. Two credits.* 204 Agricultural Building. Assistant Professor Pope. Fee, $2; deposit, $1.

46. WEAVING. Same as 45. *Second semester.*

49. ELEMENTARY MILLINERY. The making of seasonable hats from cloth, straw, and used materials. Practice in the processes involved, including design, patterns, wire frames, and blocked foundations; making and placing of trimmings, bows, folds, etc. *First semester. Laboratory, two periods. Two credits.* 108 Agricultural Building. Assistant Professor Pope. Fee, $2; deposit, $1.

50. ADVANCED MILLINERY. The making of hats involving more difficult problems including straw sewed without a foundation material, transparent hats, making and using flowers in trimmings; patterns copied from leading magazines and exclusive shops. *Second semester. Laboratory, two periods. Two credits.* 108 Agricultural Building. Assistant Professor Pope. Fee, $2; deposit, $1.

51. HOME DEMONSTRATION WORK. A study of the plans and purposes of home demonstration work. Training in community organization and in methods of conducting the work under the Farm Bureau. This course is designed for prospective home demonstration leaders. *Hours to be arranged. To be given on sufficient demand. Second semester. One laboratory. One credit.* 109 Agricultural Building. State Home Demonstration Leader.

52. BOYS AND GIRLS CLUB WORK. A study of the plans

and purposes of club work and the methods of organizing clubs and conducting club meetings. Training in the actual work of home economics club projects and in demonstration team work. This course is designed for prospective rural teachers and club leaders. *Hours to be arranged. To be given on sufficient demand. Second semester. One laboratory. One credit.* 109 Agricultural Building. Miss Barker.

56. ELEMENTARY DIETETICS. This course includes a discussion of the feeding of the family, considering the nutritive requirements, cost of food, and table service. The laboratory work consists of practice in large-quantity cookery, planning, preparing and serving meals. *Prerequisite:* Home Economics 31–32, Home Economics 3, Chemistry 21. Also open to students not majoring in Home Economics if they have consent of the instructor. *Lecture, one period; laboratory, two periods. Three credits. Second semester.* 203 Agricultural Building. Professor Lewis. Fee, $5; deposit, $1.

65. ADVANCED CLOTHING. Drafting and designing from flat patterns and also designing from the form. Working with commercial patterns to change for fit and style. Cutting, fitting, and finishing garments made from wool and silk. *Prerequisite:* H. E. 15–16–18. *Laboratory, two periods. Two credits.* 204 Agricultural Building. Assistant Professor Pope. Fee, $2; deposit, $1.

66. ADVANCED CLOTHING. This course will be given upon the shop plan. The students will take orders for dresses, suits, etc., design and draft the patterns, and work under the direction of the teacher as forelady. Careful account will be kept of the time spent upon each garment and charges for making will be based upon the time devoted to them and upon the difficulty of the operations. *Prerequisite:* Home Economics 15, 16, 18, 65. *Laboratory, two periods. Two credits.* 204 Agricultural Building. Fee, $2; deposit, $1.

76. CHILD CARE. A study of the development of the child from the beginning of life through adolescence. Habit formation; proper feeding, nursing of simple ailments. Open to Juniors and Seniors only. *Prerequisite:* Hygiene 7 and 8. Given alternate years. (Not given in 1920–1921.) *Second semester. Lectures, two periods.* 109 Agricultural Building. Professor Lewis.

81. DIETETICS. Lectures on the function, nutritive value, and digestion of foods; feeding of families, typical dietaries; comparative cost and nutritive value of foods;

requirements according to age, health, and activity. *Prerequisite:* Home Economics 3, 31–32, 55–56, Chemistry 21, 25, 26; Hygiene 7–8. *First semester. Two credits.* 206 Agricultural Building. Professor Lewis.

83. DIETETICS LABORATORY. Practice in the computing and measuring of 100 calorie portions of common foods, and preparation of meals according to definite dietetic requirements. *Prerequisite:* Home Economics 3, 31–32, 56, Chemistry 21, 26; Hygiene 7–8. *Parallel:* Home Economics 81–82. *First semester. Laboratory, three periods. Three credits each semester.* 203 Agricultural Building. Professor Lewis. Fee, $5; deposit, $1.

85. SPECIAL PROBLEMS IN FOODS. A course intended for advanced students capable of experimental and research work. *Prerequisite:* Home Economics 1–2, 3, 31–32, 55–56. *Either semester. Laboratory, two periods. Two credits.* 203 Agricultural Building. Professor Lewis. Fee, $5; deposit, $1.

86. HOUSEHOLD ADMINISTRATION. Scientific management of the home and a study of household budgets. Open to Juniors and Seniors only. Given alternate years. (Not given in 1920–1921.) 109 Agricultural Building. Professor Lewis.

87. HOUSE DECORATION. Planning, decorating, and furnishing of homes, considering art, convenience, sanitation, and economy. *Prerequisite:* Art 5 and 6, Home Economics 16. *First semester. Lectures, two periods. Laboratory, one period. Three credits.* 108 Agricultural Building. Professor Lewis. Fee, $1.50.

88. CARE OF THE HOUSE. A study of care of the house and its furnishings, making practical application of facts learned in Chemistry and Physics. *Prerequisite:* Physics 70, Chemistry 5 and 7. *Second semester. Lecture, one period; laboratory, one period. Two credits.* 109 Agricultural Building. Assistant Professor Pope. Fee, $1; deposit, $1.

95. SPECIAL PROBLEMS IN CLOTHING. A course intended for advanced students who wish to study some special problem, as clothing budgets, advanced principles of design and color harmony in dress, textiles, millinery, embroidery, etc. *Prerequisite:* Home Economics 15, 16, 18, 65–66, or 50. *Either semester. Laboratory, two periods. Two to four credits.* 204 Agricultural Building. Miss ..... Fee, $2; deposit, $1.

MATHEMATICS AND MECHANICS

PROFESSOR HASEMAN
ASSOCIATE PROFESSOR NYSWANDER

Requirements for a minor in Mathematics: Mathematics 11, 12, 13, 25, 26.

Requirements for a major in Mathematics: Mathematics 11, 12, 13, 25, 26, 85, and seven additional units approved by the department.

Requirements for a teacher's recommendation in Mathematics: a major or minor and a recommendation from the head of the department as to scholarship.

5. ELEMENTARY ALGEBRA. A thorough study of elementary algebra including quadratic equations. The course is designed to suit a variety of students, those having had practically no algebra and those having had as much as one year in the high school. This course will be required of students whose credentials permit them to take Mathematics 11, but who are unable to carry it. Such students will receive no credit for this course. *First semester. Three credits.* 204 Morrill Hall. Professor Haseman.

7. SOLID GEOMETRY. The geometry of the plane, the cone, the prism, the pyramid, and the sphere. *Second semester. Two credits.* 202 Morrill Hall. Associate Professor Nyswander.

9–10. ELEMENTARY ANALYSIS. This course will cover algebra, trigonometry, and analytic geometry. It is designed for Freshmen who choose mathematics for their science requirement. *Both semesters. Six credits.* 204 Morrill Hall. Professor Haseman and Associate Professor Nyswander.

11. ADVANCED ALGEBRA. A thorough review and drill in algebra, with special emphasis on the topics that will be most helpful in the higher courses in mathematics. This course is required of all engineering students. *First semester. Two credits.* 202 Morrill Hall. Professor Haseman.

13. PLANE TRIGONOMETRY. A study of the trigonometric functions and identities. Considerable time is devoted to the solution of triangles. *First semester. Three credits.* 202 Morrill Hall. Associate Professor Nyswander.

13. ANALYTIC GEOMETRY. An analytical treatment of the properties of the straight line, circle, parabola, ellipse, and hyperbola. Polar coordinates, the transformation of coordinates, and the general second-degree equation in two variables will also be studied. *Second semester. Three credits.* 202 Morrill Hall. Associate Professor Nyswander.

25. DIFFERENTIAL CALCULUS. A thorough study of the fundamental principles of differential calculus with application to expansion in series, tangents and normals, curvature, indeterminate forms, maxima and minima. Illustrative examples of a practical nature are emphasized. *First semester. Five credits.* 204 Morrill Hall. Professor Haseman.

26. INTEGRAL CALCULUS. The elements of integral calculus are first taken up in conjunction with certain topics in differential calculus not completed in the previous course. This is followed by the application of integration to areas of curves, areas of surface, volumes, moments of inertia, centers of gravity, etc. *Second semester. Three credits.* 204 Morrill Hall. Professor Haseman.

28. MATHEMATICAL THEORY OF INVESTMENTS. *Either semester. Three credits.* 204 Morrill Hall. Professor Haseman.

30. DESCRIPTIVE ASTRONOMY. A treatment of the facts and laws of astronomy, with a study of the solar system, the stars, comets, etc. *Second semester. Three credits.* 202 Morrill Hall. Associate Professor Nyswander.

35. SPHERICAL TRIGONOMETRY AND PRACTICAL ASTRONOMY. The solution of spherical triangles and the application of trigonometry to certain problems of practical astronomy. The theory and the use of the transit instrument. The determination of time, latitude, and longitude. *Second semester. Two credits.* 202 Morrill Hall. Associate Professor Nyswander.

40. DETERMINANTS AND THE THEORY OF EQUATIONS. The study of determinants and their applications. The theory of the quadratic, cubic, biquadratic, and the general algebraic equation. Approximation methods of solving equations of higher degree than the second. *Second semester. Two credits.* 204 Morrill Hall. Professor Haseman.

55. ANALYTIC MECHANICS. Work in the resolution of forces, moment inertia, laws of motion, friction, dynamics of machinery, work and energy, and impulse. Special emphasis is given to practical problems. *First semester. Three credits. Second semester, five credits.* 204 Morrill Hall. Professor Haseman.

62. ENGINEERING MATHEMATICS. A general course in Mathematics especially designed for electrical engineering students. *Steinmetz:* Engineering Mathematics. *Second semester. Two credits.* 204 Morrill Hall. Professor Haseman.

70. SOLID ANALYTICAL GEOMETRY. A study of the plane, ellipsoid, paraboloid, hyperboloid, and the general equation of the second degree in three dimensional spaces. *First semester. Two credits.* 202 Morrill Hall. Associate Professor Nyswander.

73. PROJECTIVE GEOMETRY. A synthetic development of the more fundamental projective properties of conic sections, including also an elementary treatment of homographic systems, involutions, anharmonic ratios, and the principle of duality. *First semester. Two credits.* 202 Morrill Hall. Associate Professor Nyswander.

75. HISTORY OF ELEMENTARY MATHEMATICS. Lectures and assigned readings on the history of the mathematical science. *First semester. Two credits.* 204 Morrill Hall. Professor Haseman.

85. DIFFERENTIAL EQUATIONS. Study of the ordinary and partial differential equations of the first and second orders with special attention to geometrical and physical applications. *First semester. Three credits.* 204 Morrill Hall. Professor Haseman.

105. THEORY OF FUNCTIONS OF THE COMPLEX VARIABLE. The fundamental operations applied to the complex number, the series, Riemann surfaces, etc. *Both semesters. Five credits for the year.* 204 Morrill Hall. Professor Haseman.

110. THEORY OF NUMBERS. Lectures and reports. *Second semester. Three credits.* 202 Morrill Hall. Associate Professor Nyswander.

115. VECTOR ANALYSIS. A study of the Vector notation applied to problems of physics. *Second semester. Three credits.* 202 Morrill Hall. Associate Professor Nyswander.

125–126. ADVANCED CALCULUS. A more rigorous study of the differential and integral calculus, with extensive applications to geometrical and physical problems. *Three credits, first semester. Two credits, second semester.* 204 Morrill Hall. Professor Haseman and Associate Professor Nyswander.

130. MODERN GEOMETRY. A comprehensive treatment of homogeneous coordinates and abridged notation with their applications in investigating analytically metrical and projective properties of lines and conics. *Both semesters. Two credits.* Associate Professor Nyswander.

135. FOURIER'S SERIES AND FOURIER'S INTEGRALS. A study

of a few of the more important partial differential equations of physics. Development of the functions into cosine and sine series. *First semester. Three credits.* 204 Morrill Hall. Professor Haseman.

150. SEMINAR. Library work and reports on various topics of mathematical interest. *Both semesters. Two credits each semester.* Professor Haseman and Associate Professor Nyswander.

For the benefit of students desiring to make mathematics their major, or to take more advanced courses in mathematics, the following subjects will be offered at any time: Elliptic Integrals and Elliptic Functions, Differential Geometry, Partial Differential Equations, Calculus of Variations, Theory of Probabilities, Theory of Functions of a Real Variable, and Synthetic Geometry.

MECHANIC ARTS

College of Engineering

ASSOCIATE PROFESSOR LEWERS
ASSISTANT PROFESSOR PRESTON

1. WOOD WORK. The students are taught the use of hand and machine tools and the most approved processes and methods followed in engineering construction. The bench work includes the following operations: plowing, sawing, rabbeting, planing, notching, splicing, mortising, tenoning, dovetailing, framing, paneling, and the general use of carpenter's tools. A number of exercises in wood turning are given to all taking this course. *Freshman year. Either semester. One or two credits either semester, according to the requirements of the respective departments.* Mechanical Building. Assistant Professor Preston. Fee, $3.50 per credit.

2. FORGING. The work in forging includes exercises in heating, bending, drawing, upsetting, plain welding, butt welding, lap welding, ring welding, tee welding, etc. In steel forging the exercises include the making and tempering of punches, drills, chisels, annealing, case-hardening, and the making of a complete set of machine-cutting tools for the student's future use in the machine shop. *Freshman year. One or two credits either semester, according to the requirements of the respective departments.* 101 Mechanical Building. Assistant Professor Preston. Fee, $3.50 per credit.

3. MACHINE WORK. Instruction in this work consists of

vise work in iron including surface-chipping, squaring and fitting, round filing, sawing, scraping, and polishing. Machine work in metals, including exercises in straight and taper turning, slotting, drilling, boring, planing, and screw-cutting. Practice in the machine shops begins with a series of simple exercises teaching the proper use of the hammer, chisel, and file; the laying out of work and the use of the lathe, shaper, milling-machine, etc. As the student becomes familiar with the use of tools and machines, he is given work on simple machine details and construction and finally assembles the parts into a complete machine. *Both semesters. One to four credits either or both semesters according to the requirements of the respective departments.* 101 Mechanical Building. Assistant Professor Preston. Fee, $3.50 per credit, according to work being done.

4. FOUNDRY PRACTICE. Instruction is given in pattern-making, molding, core-making, and casting in brass and iron. Practically all of the castings used in the machine shop are made by the students in this course. *Sophomore year. Second semester. One credit, according to the requirements of the respective departments.* 101 Mechanical Building. Assistant Professor Preston. Fee, $3.50 per credit.

5. MANUAL-TRAINING TEACHERS' COURSE. Applied design and construction in wood and metal. *Two credits.* Physics Building and Mechanical Building. Associate Professor Lewers.

6. PATTERN-MAKING. Instruction is given in making of wood patterns for use in the foundry, introducing solid and built-up patterns, also dry and green sand-cores, horizontal cores and core-prints. Instruction is given on segment boxing and the two- and three-part flask. *Freshman year. Second semester. One credit, according to the requirements of the respective departments.* 101 Mechanical Building. Assistant Professor Preston. Fee, $3.50 per credit.

MECHANICAL ENGINEERING

College of Engineering

PROFESSOR SIBLEY
ASSOCIATE PROFESSOR LEWERS
ASSISTANT PROFESSOR PRESTON
MR. KENT

2. ELEMENTARY MECHANICAL DRAWING. Lettering, geometrical construction, isometric and cabinet projection and drawing from sketch of simple machine parts. *First semes-*

ter. Two credits. Electrical Building. Assistant Professor Preston and Mr. Kent.

3. FREEHAND DRAWING. Perspective drawings of machines and buildings. Perspective drawings from mechanical drawings. Memory drawings of machines. Isometric drawing. *First semester. Electrical and Mining Engineering, one credit; Mechanical and Civil Engineering, two credits.* 104 Physics Building. Associate Professor Lewers.

4. DESCRIPTIVE GEOMETRY. Standard problems on the point, line, plane, curved surface and solid are taken up in lectures and in the drawing-room. Special attention is paid to the application of these principles to the problems of the draftsman, and a large number of practical problems are given. *Prerequisite:* Mechanical Engineering 2, Mathematics 12, Plane and Solid Geometry. *Second semester. Laboratory, three periods. Three credits.* Electrical Building. Mr. Kent.

5. KINEMATICS. The geometry of machinery, showing the laws which govern the velocity of moving parts, the correct forms of gear teeth, the manner of designing trains of mechanism. *Prerequisite:* Mechanical Engineering 2 and 4. *First semester. Three credits.* Electrical Building. Professor Sibley.

53. MACHINE DESIGN. The study of the application of the laws of velocity, force, and strength of materials to the design of machinery; tooth and belt gearing, shafts, journals, hangers, cylinders, springs, bolts, keys, etc. *Second semester. Three credits.* Electrical Building. Professor Sibley.

54. ENGINES AND BOILERS. Fuels and their combustion under boilers for the production of steam are first taken up. The various types of boilers and boiler-room equipment are studied, and problems involving the power and efficiency of power plants considered. The common types of steam engines and turbines, with their auxiliaries, are studied, paying attention to their construction and operation. *Prerequisite:* Physics 4; Mechanical Engineering 5. *First semester. Lectures, three. Three credits.* Electrical Building. Mr. Kent.

55–56. THERMODYNAMICS. A study of the thermodynamics of perfect gases, gaseous vapors, and steam, and their application to gas engines, air compressors, refrigerating machinery, steam engines and turbines. *Prerequisite:*

Physics, Chemistry, and Mathematics. *Both semesters. Three credits each semester.* Electrical Building. Professor Sibley.

58. MECHANICS OF HEAT ENGINES. Inertia forces in the moving parts of reciprocating engines, fly-wheel design, valves and valve gearing, governors. *Prerequisite:* Mathematics, Mechanical Engineering 53 and 54. *First semester. Three credits.* Electrical Building. Professor Sibley.

64. MECHANICAL LABORATORY. This course is designed to familiarize the student with the general process of steam- and gas-engine testing, and to give training in accuracy and reliability in securing data and analyzing results. The experiments involved include: A study of the auxiliary apparatus used in connection with steam and gas machinery; calibration of instruments, such as thermometers, pressure gages, indicator springs, etc.; tests of elementary transmission machinery; friction tests of steam and gas engines. Preceded or accompanied by Mechanical Engineering 54. *Laboratory, one period. One credit.* Electrical Building. Mr. Kent. Fee, $2.50.

65–66. MECHANICAL LABORATORY. This work covers the following:

(a) Tests of steam turbines and reciprocating engines for the determination of power developed, steam consumed, heat lost, and the mechanical and thermal efficiencies under different loads, steam pressures, and back pressures.

(b) Thermal efficiency tests of gas, gasoline and oil engines, automobile motors and air compressors.

(c) Steam-boiler tests for determining the evaporative efficiency of boilers of different types under conditions of ordinary use, and determination of the efficiency of steam and power pumps and steam injectors when operated under various conditions.

(d) Practice in setting slide, piston and Corliss valves by measurement and by indicator.

Prerequisite: Mechanical Engineering 55 and 56. *Both semesters. Laboratory, three periods. Three credits.* Electrical Building. Mr. Kent. Fee, $5 each semester.

67. MECHANICAL LABORATORY. This course embraces practice in calibrating gages, thermometers and other instruments used in testing steam and gas engines. Practice is given in valve setting, and the determination of engineering data concerned with this class of machinery. Friction tests

and the simpler thermal tests are made on prime movers. For students outside the schools of Mechanical and Electrical Engineering. Must be accompanied by Mechanical Engineering 68. *Laboratory, one period. One credit.* Electrical Building. Mr. Kent. Fee, $2.50.

68. STEAM AND GAS POWER. This course consists of the general study of steam- and gas-power plants with equipments, including steam boilers, gas producers, steam and gas engines, and steam turbines with their accessories; study of the relative costs and advantages of different forms of prime movers, the combustion, handling and storage of fuels used in power plants. For students outside the Schools of Electrical and Mechanical Engineering. Preceded or accompanied by Physics 2 or 4. Must be accompanied by Mechanical Engineering 62. *First semester. Lectures, two. Two credits.* Electrical Building. Mr. Kent.

80. THESIS. An original design or an investigation intended to give the student a knowledge of research methods in engineering. This course may be elective at the discretion of the instructors in the department. *Second semester. Three credits.* Professor Sibley or Mr. Kent. Laboratory fee of $5 may be required.

METALLURGY

PROFESSOR PALMER

51. FIRE ASSAYING. Lectures, recitations, and laboratory work in assaying. Methods of assaying, systems of weights used, calculations and problems, equipment of assay laboratories, sampling, chemistry of assaying. The assay of gold and silver ores of the simpler types followed by the assay of difficult ores and metallurgical products. *Prerequisite:* Mineralogy 3, Chemistry 9. *First semester. Lectures, two hours; Laboratory, three periods. Five credits.* Mackay School of Mines. Professor Palmer. Fee, $15. Students who do not complete their laboratory work during the regular periods are required to pay an additional fee to cover the extra cost of such work. This fee will be $1 per laboratory period for each period the furnaces are used plus the cost of any chemicals, etc., used.

52. ADVANCED FIRE ASSAYING (College of Engineering). A laboratory course designed to give the student advanced practice work in fire assaying of gold and silver. Not given for less than three students. *Prerequisite:* Metallurgy 51.

First semester. One credit. Mackay School of Mines. Professor Palmer. Fee, $5; deposit, $5.

55. GENERAL METALLURGY (College of Engineering). Lectures and recitations on the general principles and practice of metallurgy. The physical and chemical properties of the more important metals and alloys, fuel, refractory materials, pyrometallurgical apparatus. Outlines of the common metallurgical processes including those employed in the manufacture of iron and steel, copper, lead, zinc, and the minor metals. Designed primarily as an introduction to the study of metallurgy, this course is well adapted to the requirements of students in other departments and colleges who may desire to secure an elementary knowledge of metallurgy. *Prerequisite:* Chemistry 5–6. *Second semester. Three credits.* Mackay School of Mines. Professor Palmer.

56. METALLOGRAPHY (College of Engineering). This course is designed to cover the methods of preparation and microscopic examination of specimens of some of the common metals and alloys, illustrating the microstructure of pure metals and alloys, the effects of heat treatment in tempering and annealing, cooling curves, the detection of the presence of flaws and defects in metals, a study of welds, and the effects of strain and mechanical treatment. *Prerequisite:* Metallurgy 55. *Second semester. Lecture, one hour; Laboratory, one period. Two credits.* Mackay School of Mines. Professor Palmer. Fee, $1; deposit, $5.

57. METALLURGY OF THE MINOR AND RARE METALS (College of Engineering). Lectures and recitations on the metallurgy of minor and rare metals including the following: Antimony, arsenic, aluminum, bismuth, mercury, molybdenum, platinum, tin, and tungsten. *Prerequisite:* Metallurgy 55. *First semester. One credit.* Mackay School of Mines. Professor Palmer.

60. METALLURGY OF COPPER, LEAD AND ZINC (College of Engineering). Lectures and recitations on the metallurgy of copper, lead, and zinc. Properties of the metals and the more important alloys and compounds. Roasting, smelting, converting, leaching, and refining of copper; roasting, smelting, and refining of lead; leaching and smelting of zinc. Three months are devoted to the subject of copper and one month to lead and zinc. *Prerequisite:* Metallurgy 55. *First semester. Three credits.* Mackay School of Mines. Professor Palmer.

65. ORE DRESSING (College of Engineering). Lectures, recitations, and laboratory practice in ore dressing. Laws of crushing, sizing, and concentration of ores, including flotation. Machines employed and practice in operating them. *Prerequisite:* Chemistry 10, Metallurgy 51 and 55. *First semester. Lectures, two hours; Laboratory, two periods. Four credits.* Mackay School of Mines. Professor Palmer. Fee, $5.

70. METALLURGY OF GOLD AND SILVER (College of Engineering). Lectures, recitations, and laboratory exercises on the metallurgy of gold and silver. Physical and chemical properties of these metals and of their compounds and alloys. Methods of extracting the precious metals from their ores with special emphasis on the cyanide method. Refining gold and silver. *Prerequisite:* Metallurgy 51 and 55; Chemistry 10. *Second semester. Lectures, three hours; Laboratory, two periods. Five credits.* Mackay School of Mines. Professor Palmer. Fee, $5; deposit, $5.

71. METALLURGICAL DESIGN (College of Engineering). The design of a metallurgical plant including the preparation of working drawings of certain parts of this plant and the solution of the engineering problems connected with it. *Prerequisite:* To be taken at the same time or after completing Metallurgy 70 and Civil Engineering 71. *Second semester. Laboratory, two periods. Two credits.* Mackay School of Mines. Professor Palmer.

72. ELECTROMETALLURGY (College of Engineering). Lectures and recitations on electric smelting and the electrolytic processes involved in the metallurgy of the common and precious metals. *Prerequisite:* Electrical Engineering 59 and 60, to be taken at the same time or after completing Metallurgy 60 and 70. *Second semester. One credit.* Mackay School of Mines. Professor Palmer.

73. METALLURGICAL PROBLEMS (College of Engineering). This course covers common technical and economic problems related to the design, operation and management of metallurgical plants. *Prerequisite:* To be taken at the same time or after completing Metallurgy 60 and 70. *Second semester. One credit.* Mackay School of Mines. Professor Palmer.

80. METALLURGICAL RESEARCH (College of Engineering). Research work in metallurgy or some allied subject. An elective course for students who, in the opinion of the instructor, are capable of undertaking research. *Second semester. Two*

credits. Mackay School of Mines. Professor Palmer. Deposit to be arranged according to work undertaken.

180. THESIS (College of Engineering). Advanced research work in metallurgy. A graduate course. *Credits to be arranged.* Mackay School of Mines. Professor Palmer. Deposit to be arranged according to work undertaken.

MILITARY SCIENCE AND TACTICS

COLONEL J. P. RYAN, U. S. ARMY, COMMANDANT
MAJOR A. H. BAILEY, U. S. ARMY, ASSISTANT COMMANDANT
LIEUTENANT ARTHUR T. HARRISON, O. R. C., INSTRUCTOR
FIRST SERGEANT E. E. VAUGHN, U. S. ARMY, ASSISTANT INSTRUCTOR
SERGEANT W. E. LESCH, U. S. ARMY, ASSISTANT INSTRUCTOR

The following courses of instruction are prescribed by the War Department for Infantry Units of the Reserve Officers Training Corps:

MILITARY 1–2. Basic Course — Practical and Theoretical. Principles of organization and administration of an infantry company; military hygiene, first aid, and sanitation; military courtesies and customs of the service; interior guard duty; infantry drill, to include school of the platoon; infantry weapons and equipment; rifle, bayonet, and infantry pack. Required of all first-year men students. *Three hours per week. Both semesters. One credit each semester.*

MILITARY 2A. Basic Camp Course (elective). No credit.

NOTE—Camps for practical instruction are conducted by the War Department for a period of six weeks during June and July at a Regular Army station. Attendance at the Basic Camp course is voluntary, but all students who expect to take advanced military are urged to attend the camp at the end of the first year of military training. Transportation to and from the camp and all expenses incident to service at the camp are paid by the Government.

MILITARY 3–4. Basic Course — Practical and Theoretical. Duties as noncommissioned officers. Military sketching and map-reading; minor tactics; service of information and security; infantry drill, to include school of the company; infantry weapons, to include the rifle, automatic rifle, and machine guns. Required of all second-year men students. *Three hours per week. Both semesters. Two credits each semester.*

MILITARY 51–52. (Elective.) Advanced Course—Practical and Theoretical. Duty as officers in connection with work of first- and second-year students; and, in addition, field engineering; minor tactics; combat of small units; infantry weapons; pistol, hand and rifle grenades, trench

mortars and 37mm. gun; infantry drill, to include school of battalion. Required of all third-year men taking advanced military. *Five hours per week. Both semesters. Two credits each semester.*

MILITARY 53A. Advanced Camp Course. *Two credits.*

NOTE—Students taking advanced military and receiving a daily money allowance from the Government are required to attend a camp of instruction for a period of six weeks at the end of the third year. Under exceptional circumstances attendance at the camp may be deferred until the end of the fourth year. Students attending the advanced camp course receive pay at the rate of $30 per month from the U. S. Government.

MILITARY 53–54. (Elective.) Advanced Course—Practical and Theoretical. Duty as officers in connection with work of first- and second-year students; and, in addition, military history and policy of the United States; military law and rules of land warfare; administration; management and interior economy of a company; musketry, control and direction of infantry fire. Required of all fourth-year men taking advanced military. *Five hours per week. Both semesters. Two credits each semester.*

MINERALOGY

PROFESSOR JONES

1. DETERMINATIVE MINERALOGY. The first few weeks are devoted to an elementary course in crystallography, followed by the determination of the more common minerals, chiefly by means of their physical properties, using such simple tests as are of easy application in the field. *Prerequisite:* Chemistry 1, or an entrance credit in Chemistry. *First semester. Two credits.* Mackay School of Mines. Professor Jones. Deposit, $4.

2. BLOWPIPE ANALYSIS. The determination of minerals by blowpipe analysis. *Prerequisite:* Chemistry 1 or an entrance credit in Chemistry. *Second semester. Two credits.* Mackay School of Mines. Professor Jones. Deposit, $4.

3. DESCRIPTIVE MINERALOGY. Lectures and recitations on the classification, salient properties, occurrence, genesis, and uses of the more important minerals, illustrated by typical specimens. *Prerequisite:* Mineralogy 1. *First semester. Two credits.* Mackay School of Mines. Professor Jones.

51. ADVANCED MINERALOGY. Advanced work in either blowpipe analysis, crystallography, or the determination of minerals under the microscope. *Prerequisite:* Mineralogy 1, 2,

and 3. *Either semester. One or two credits.* Mackay School of Mines. Professor Jones.

MINING

College of Engineering

PROFESSOR LINCOLN

Special Lecturers:
STAFF OF CAR NO. 1
(U. S. Bureau of Mines)

1. INTRODUCTORY MINING. A lecture course designed to acquaint the mining student with the main features of the mining industry and with the bearing of his studies upon his future work. History of mining, importance of the mining industry, occurrence of ores and useful minerals, outlines of the processes employed in mining, education and work of the mining engineer. *Freshman year. Second semester. One credit.* 100 Mackay School of Mines. Professor Lincoln.

5. PRACTICAL MINING. Practical work in mining or metallurgy during the summer vacation. Such work must extend over a period of at least one month, and a satisfactory report must be prepared upon it. *Freshman, Sophomore, or Junior vacation.* Required for graduation. *No credit.*

51. EXCAVATION. Lectures and recitations on the principles and practice of excavation. Earth excavation, explosives, rock excavation, tunneling, shaft sinking, and boring. *Prerequisite:* Mining 1. *Junior year. First semester. Three credits.* 100 Mackay School of Mines. Professor Lincoln.

52. MINE PLANT. Lectures on the principles and practice of underground haulage, hoisting, surface transportation, mine drainage, ventilation, illumination, and general discussion of steam, gas, electric and compressed-air plants. *Prerequisite:* Mining 1. *Junior year. Second semester. Three credits.* 100 Mackay School of Mines. Professor Lincoln.

60. JUNIOR MINING TRIP. A trip to a Nevada mining district to study the geological, mining, and metallurgical conditions. This excursion will consume from four to nine days, and each student will pay his own traveling and living expenses. A detailed report of observations made on the trip will be required. *Prerequisite:* Regular Junior standing. *Junior year. Second semester.* Professors Jones, Palmer, and Lincoln. Required for graduation. *No credit.*

61. MINING METHODS. Lectures and recitations on the prospecting, development, and exploitation of mineral deposits, including underground metal-mining methods in detail, open-cut methods, coal-mining methods in brief, and placer-mining methods. *Prerequisites:* Mining 51 and 52. *Senior year. First semester. Three credits.* 100 Mackay School of Mines. Professor Lincoln.

65. MINE RESCUE. Regular training in mine rescue by the Staff of Car No. 1 of the United States Bureau of Mines, whose headquarters is at the University of Nevada. *Senior year. Second semester.* Required for graduation. *No credit.*

72. ECONOMICS OF MINING. Lectures and recitations on the business, sociology, and law of mining. Mine organizations and accounts, cost of mining, wages and welfare, accidents and their prevention, mining laws of the United States and of the State of Nevada, sampling and sale of ore and other mineral products, valuation of mining properties. *Prerequisite:* Mining 61. *Senior year. Second semester. Three credits.* 100 Mackay School of Mines. Professor Lincoln.

75. MINING SEMINAR. The discussion of articles upon geological, mining, and metallurgical subjects appearing in current technical journals. *Prerequisite:* Mining 61. *Either semester. One credit.* 105 Mackay School of Mines. Professor Lincoln.

80. SENIOR MINING TRIP. The same as Mining 60, Junior Mining Trip, but taken in the student's Senior year. Excursions are made to different mining camps successive years so that both Senior and Junior mining trips may be carried on at the same time without duplication so far as individual students are concerned. *Prerequisite:* Mining 60. *Senior year. Second semester.* Professors Jones, Palmer, and Lincoln. Required for graduation. *No credit.*

90. MINING PROJECTS. One conference and one laboratory period weekly devoted to individual problems in seeking, opening, and working imaginary mines supposed to be located in important mining camps. *Prerequisite:* Mining 61. Optional. *Second semester. Two credits.* 101 Mackay School of Mines. Professor Lincoln.

99–100. MINING RESEARCH. Research work in mining or some allied subject. An elective course for students who, in the opinion of the instructor, are capable of undertaking

research. ***Both semesters. Two credits each semester.*** Mackay School of Mines. Professor Lincoln.

101. MINE EXAMINATION. Lectures on the examination of metal mines and prospects. Sampling, estimation of ore, valuation of properties, forms of reports. A graduate course open as an elective to undergraduates who are suitably prepared. ***Either semester. Two credits.*** 102 Mackay School of Mines. Professor Lincoln.

102. THE PRECIOUS AND BASE METAL INDUSTRIES. Lectures on the business of mining base and precious metals. The occurrence, statistics, mining, milling, smelting, and marketing of copper, lead, zinc, gold, and silver discussed from the economic view-point. A graduate course open to undergraduates who are suitably prepared. ***Either semester. Two credits.*** 102 Mackay School of Mines. Professor Lincoln.

103. THE PETROLEUM INDUSTRY. The chemistry of petroleum, the geology of oil and gas deposits. Prospecting and drilling for oil and gas. Pumping and storing oil. Refining petroleum. Natural gas and its products. The oil-shale industry. Marketing petroleum products. A graduate course open as an elective to undergraduates who are suitably prepared. ***Either semester. Two credits.*** 102 Mackay School of Mines. Professor Lincoln.

199–200. THESIS. Advanced research work in mining, metallurgy, geology, or some allied science. A graduate course. ***Both semesters. Four credits each semester.*** Total course only accepted toward degree. Mackay School of Mines. Professor Lincoln.

PROSPECTORS' SHORT COURSE. The subjects taught in the Prospectors' Short Course are listed and described under "Short Courses."

PHILOSOPHY

PROFESSOR THOMPSON

Requirements for a major in Philosophy: Psychology 5 or 6, Philosophy 1 or 7 and 21, and twelve units in courses 51 to 84.

Requirements for a minor in Philosophy: Psychology 5 or 6, Philosophy 1 or 7 and 21, and six units in courses 51 to 84.

1. INTRODUCTION TO PHILOSOPHY. A brief study of the problems of philosophy with the solutions suggested by the various schools. Designed both for the student who wishes a perspective for further work in philosophy, and for the student who desires a general knowledge of the scope and

methods of philosophy. *No prerequisite. First semester. Two credits.* 203 Stewart Hall. Professor Thompson.

2. INTRODUCTION TO PHILOSOPHY. The same as course 1 in form and content. *Second semester. Two credits.* 203 Stewart Hall. Professor Thompson.

7. DEDUCTIVE LOGIC. Terms, definition, division, syllogism and fallacies. Text, lectures and exercises. *No prerequisite. First semester. Three credits.* 203 Stewart Hall. Professor Thompson.

8. INDUCTIVE LOGIC. The assumptions of induction methods of scientific investigation, fallacies, the tests of truth. Text, lectures and exercises. *No prerequisite. Second semester. Three credits.* 203 Stewart Hall. Professor Thompson.

21. ETHICAL THEORIES. A study of the leading theories of moral principles and ideals. Among the topics discussed will be the concept of the good, duty, egoism, altruism, freedom, responsibility, and the doctrine of virtues. Open to Sophomores. *First semester. Three credits.* 203 Stewart Hall. Professor Thompson.

22. APPLIED ETHICS. The application of ethical theory to typical problems of institutional life, property, and the family. Open to Sophomores. *Second semester. Three credits.* 203 Stewart Hall. Professor Thompson.

28. SOCIAL ETHICS. A brief study of the fundamental ethical principles based upon concrete social problems. Required of Sophomores in the two-year Normal course. *Second semester. Two credits.* 203 Stewart Hall. Professor Thompson.

51. HISTORY OF ANCIENT PHILOSOPHY. A study of Greek and Roman Philosophy, and of Medieval Philosophy to the decline of scholasticism. *Prerequisite:* One course in Philosophy. *First semester. Two or three credits according to the work done.* 203 Stewart Hall. Professor Thompson.

52. HISTORY OF MODERN PHILOSOPHY. A study of the problems and concepts of philosophy from Descartes to the present time. *Prerequisite:* One course in Philosophy. *Second semester. Two or three credits according to the work done.* 203 Stewart Hall. Professor Thompson.

53–54. PHILOSOPHICAL TENDENCIES OF THE PRESENT. A review and criticism of the main tendencies in present philosophical thought with reference to concrete social prob-

lems. Special attention will be given to absolutism, pragmatism, pluralism, and the philosophy of Bergson. *Prerequisite:* One course in Philosophy. *Both semesters. Two credits each semester.* Alternates with Philosophy 51 and 52. (Not given in 1920–1921.) 203 Stewart Hall. Professor Thompson.

61. INTRODUCTION TO RELIGION. A study of the forms and psychological aspects of religious experience with special reference to typical historic religions. *Prerequisite:* One course in Philosophy or Education 5. *First semester. Two to three credits according to work done.* 203 Stewart Hall. Professor Thompson.

62. PHILOSOPHY OF RELIGION. The meaning and validity of religious experience. Among the topics discussed will be the religious conception of God, the world, revelation, faith, prayer, evil, immortality. *Prerequisite:* One course in Philosophy and Psychology 5. *Second semester. Two or three credits according to the work done.* 203 Stewart Hall. Professor Thompson.

83–84. METAPHYSICS. A constructive study of the problems of being, unity, order, and individuality, with practical applications of the theory developed. *Prerequisite:* Two courses in Philosophy and Psychology 5. *Both semesters. Two credits each semester.* 203 Stewart Hall. Professor Thompson.

PHYSICAL EDUCATION

Women

ASSOCIATE PROFESSOR SAMETH
MISS SOMERS

Requirements of a minor in Physical Education: It is recommended that students desiring a minor in Physical Education fulfil their Freshman and Sophomore requirement in the Department of Biology. Requirement: Physiology, and, in addition to the required Freshman and Sophomore courses, Physical Education 10, 31, 32, 55, 56, 59, 60, 61, and two years of participation in athletics.

1–2. FRESHMAN PRACTICE. Free work, light apparatus, games, and dancing. *Three periods. Both semesters. One credit each semester.* Gymnasium.

3–4. SOPHOMORE PRACTICE. Continuation of Physical Education 1–2. *Two periods. Both semesters. One-half credit each semester.* Gymnasium.

5–6. CORRECTIVE GYMNASTICS (Practice). Required instead of part of Physical Education 1–2 and 3–4 of all students

who upon examination show need of it. *Four 20-minute periods a week. One credit each semester.* Gymnasium.

10. MATERIAL COURSE. Required of students in Education and of Physical Education minors. The object of this course is to give those who intend to teach, simple games, folk-dances and setting-up drills suitable for use in the grades and enough theory to get an intelligent view-point on the physical education of the present day. There will be one lecture or recitation dealing with the meaning of physical education as a part of the life of the school child. The second period will be used for practical work. *Two periods. One semester. One credit.* Gymnasium.

12. HISTORY OF PHYSICAL EDUCATION. This course will deal with the development of physical training from the earliest times to the present day. The principal historic systems as well as the present-day theories and methods will be discussed. *Two periods. Second semester. Two credits.* (Not given in 1921–1922.) Gymnasium.

31–32. DANCING. Dancing, including national, classical, folk and interpretative. Open to all who have had the equivalent of Physical Education 1–2. Special permission to enter this section will be granted to those who have not had the equivalent of Physical Education 1–2 and 3–4, but who can pass a satisfactory practical examination. *Three periods. Both semesters. One credit each semester.*

53–54. ADVANCED DANCING. A continuation of Physical Education 31–32. This course will include interpretative dancing and the construction of at least one festival or pageant, as well as at least two dances. *Three periods. Both semesters. One credit each semester.*

55. KINESIOLOGY. *Prerequisite:* Physical Education 1–2 and 3, Zoology 1 or Hygiene 7 and 8. The chief object of this course is to familiarize the student with the mechanism of the human body, dealing particularly with the shoulder-girdle, spine, pelvis, and feet, so that the student will be prepared to study intelligently cases of round shoulders, spinal curvature, and flat feet. *Three periods. First semester. Two credits. Gymnasium.* (Not given in 1921–1922.)

56. CORRECTIVE GYMNASTICS. Anthropometry and corrective gymnastics. *Prerequisite:* Physical Education 55. The course is intended to be a practical application of Physical Education 55. Students will be given the opportunity to prescribe exercises for students taking Physical Education 5–6.

Each student will be expected to measure at least two adults and three children. *Three periods. Second semester. Two credits.* Gymnasium.

59–60. THEORY AND PRACTICE OF ATHLETICS. *Prerequisite:* Two years participation in athletics (at least one year in college). *Two periods. One credit per semester.* Basketball, baseball, hockey, soccer, track.

61. Continuation of 10. Practice teaching and conferences. Required of Physical Education minors. *One credit.*

Men

PROFESSOR COURTRIGHT
INSTRUCTOR WILLIAMS

1. DEVELOPMENTAL EXERCISES. Hygiene and social problems are discussed as an essential part of this course. This instruction gives an insight into the practical problems of daily living from a personal and from a community point of view, including special lectures on venereal diseases. The lectures are so arranged that the student receives the equivalent of a one-hour course in personal and social hygiene throughout the four semesters of required work. The practical work consists in calisthenics, light and heavy apparatus, and informal games, which are selected with a view to obtaining progressive effect upon the bodily organism. When the weather permits, the work is done out of doors. *Freshman year. First semester. Two hours per week. One credit.* Mr. Williams.

2. DEVELOPMENTAL EXERCISES. Continuation of course 1. *Second semester. One credit.* Mr. Williams.

3. ADVANCED EXERCISES. Lectures on hygienic and social problems are continued through the Sophomore year. The practical work consists in gymnastics—advanced apparatus exercises, gymnastic dancing, tumbling, and athletic games.

By obtaining consent of the Director of the Department a student may elect any of the following as a substitute for the practical work in courses 3 and 4: Supervised—volley ball, playground ball, tennis, cross country and gym team. *Sophomore year. First semester. Two hours per week. One credit.* Mr. Williams.

4. ADVANCED EXERCISES. Continuation of course 3. *Second semester. One credit.* Mr. Williams.

5–8. SPECIAL CORRECTIVE EXERCISES. This course is designed for all Freshmen and Sophomores whose physical

examinations show they are unfitted to take courses 1, 2, 3, and 4. *One credit for each semester's work up to and including four semesters.* Mr. Williams.

51. FOOTBALL IN THEORY AND PRACTICE. A course of lectures and practical demonstrations for those who may wish to coach, or for players who are out for the varsity or for those who are interested in and wish a more intimate knowledge of America's greatest game. Open only to Juniors or Seniors who have had two or more years' college experience in this sport. *First semester. One lecture per week and one hour laboratory. One hour credit.* Not given unless eight or more are enrolled. Professor Courtright.

52. BASKETBALL IN THEORY AND PRACTICE. A course of lectures and practical demonstrations in America's leading winter indoor sport. *Second semester. One lecture and one hour laboratory per week. One hour credit.* The same conditions for enrollment must be met as in course 51. Professor Courtright.

54. TRACK AND FIELD ATHLETICS. Lectures and demonstrations on each track and field event. *Second semester. One lecture and one hour laboratory per week. One credit.* The same conditions for enrollment must be met as in course 51. Professor Courtright.

PHYSICS

PROFESSOR HARTMAN
ASSISTANT PROFESSOR BLAIR

Requirements for a minor in Physics: Mathematics 7, 11, and 12 (unless these are offered for admission), and 13; Physics 1–2 (unless Physics is offered for admission), 3–4 and 5–6.

Requirements for a major in Physics: Mathematics 7, 11, and 12 (unless these are offered for admission), and 13, Physics 1–2 (unless Physics is offered for admission), 3–4, 5–6, and four additional units approved by the department.

Requirement for a teacher's recommendation in Physics: a major or a minor in the department.

1–2. GENERAL PHYSICS. A course in general physics primarily for students in arts and science, medicine, and agriculture. Lectures and recitations with experimental demonstrations and problem work. The laboratory work is largely quantitative in character and is designed to illustrate fundamental physical principles and to develop skill and accuracy in the methods of physical measurements. *Prerequisite:* Plane Geometry. A knowledge of trigonometry also is desirable. *Both semesters. Four credits each semester.* 103, 109,

and 201 Physics Building. Assistant Professor Blair. Fee, $1; deposit $5.

3–4. GENERAL PHYSICS FOR ENGINEERS. Mechanics and heat, sound and light, and electricity and magnetism. Lectures and recitations are fully illustrated by experimental demonstrations at the lecture table and by problems. *Prerequisite:* Mathematics 7, 11, 12, and 13, high-school Physics, or Physics 1–2. *Both semesters. Five credits each semester.* 201 Physics Building. Professor Hartman.

5–6. PHYSICAL MEASUREMENTS. Experimental work of distinctly quantitative character is done in mechanics and heat, sound and light, and electricity and magnetism. The methods selected involve fundamental physical principles, and illustrate their most important applications. *Prerequisite:* Mathematics 7, 11, 12, and 13; Physics 1–2, or high-school Physics. *Both semesters. Two credits each semester.* 103 and 109 Physics Building. Assistant Professor Blair. Fee, $3; deposit, $5.

19–20. HOUSEHOLD PHYSICS. A course in general physics for students in home economics. The practical applications of physics in the home will be emphasized. *Prerequisite:* A thorough knowledge of elementary algebra and plane geometry. *Both semesters. Lecture, recitation and quiz, two hours; laboratory, one period. Three credits each semester.* 103 and 201 Physics Building. Assistant Professor Blair. Fee, $3; deposit, $5.

53–54. GENERAL PHYSICS FOR ARTS AND SCIENCE STUDENTS OF THE SENIOR COLLEGE. Mechanics and heat, sound and light, and electricity and magnetism. Lectures and recitations are fully illustrated by experimental demonstrations at the lecture table and by problems. *Prerequisite:* Mathematics 7, 12, and 13, high-school Physics, or Physics 1–2. *Both semesters. Five credits each semester.* 201 Physics Building. Professor Hartman.

55–56. PHYSICAL MEASUREMENTS. Experimental work of distinctly quantitative character is done in mechanics and heat, sound and light, and electricity and magnetism. The methods selected involve fundamental physical principles, and illustrate their most important application. *Prerequisite:* Mathematics 7, 12, and 13; Physics 1–2 or high-school Physics. *Both semesters. Two credits each semester.* 103 and 109 Physics Building. Assistant Professor Blair. Fee, $3; deposit, $5.

57–58. ELECTRICAL MEASUREMENTS. Precise measurements of current electromotive force and power, with both alternating and direct current. Calibration of instruments, determination of resistance, capacity, mutual inductance, and self-inductance. Hysteresis. Photometry. Illumination. One hour each week will be devoted to discussion and recitation. *Prerequisite:* Physics 3–4 and 5–6. *Either semester. One or two credits per semester.* 103, 109, and 201 Physics Building. Professor Hartman and Assistant Professor Blair. Fee, $3; deposit, $5.

59–60. HEAT AND THERMODYNAMICS. Lectures and recitations accompanied by experimental work of a quantitative character. This course, together with Physics 61–62, is introductory to Mathematical Physics. Many of the more difficult subjects merely touched upon in Physics 1–2, or 3–4, will be fully treated. (Alternates with Physics 61–62.) *Prerequisite:* Physics 1–2, or 3–4 and 5–6; and Mathematics 13, 25, and 26. *Both semesters. Two credits each semester.* 201 Physics Building. Professor Hartman.

61–62. LIGHT AND PHYSICAL OPTICS. Lectures; experimental illustration on selected topics in light, including discussion of wave theory, diffraction, interference, resolving power of optical instruments, dispersion and absorption, spectrum analysis, double refraction, and polarization. (Alternates with Physics 59–60.) *Prerequisite:* Physics 3–4 and 5–6; Mathematics 13, 25, and 26. *Both semesters. Two credits each semester.* 201 Physics Building. Professor Hartman and Assistant Professor Blair.

63. PHYSICAL OPTICS. Laboratory exercises in connection with course 61–62. *First semester. Two credits.* 201 Physics Building. Professor Hartman and Assistant Professor Blair. Fee, $3; deposit, $5.

65–66. HISTORY OF PHYSICS. Lectures and recitations. Preparation of reports and discussion of assigned topics by members of the class. *Prerequisite:* Physics 1–2 or 3–4, and 5–6. *Both semesters. One credit.* 201 Physics Building. Professor Hartman.

67. DISCHARGE OF ELECTRICITY THROUGH GASES. *Prerequisite:* Physics 1–2 or 3–4. *First semester. Two credits.* 201 Physics Building. Professor Hartman.

68. ELECTRIC LIGHTING. The application of physical principles to the various problems of electric lighting, photometry, and miscellaneous applications of electricity.

Prerequisite: Physics 3–4 and 5–6, and Mathematics 13, 25, and 26. *Second semester. Two credits.* 201 Physics Building. Professor Hartman.

101–102. MATHEMATICAL PHYSICS. An introduction to the more advanced mathematical analysis as applied to general physical problems. *Prerequisite:* Physics 3–4, 5–6, 57, and 59–60, and Mathematics 13, 25, 26, and 85. *Both semesters. One credit each semester.* 201 Physics Building. Professor Hartman.

103–104. THESIS WORK, and all special laboratory work not in the courses announced above. *Both semesters. Credits to be arranged.* 201 Physics Building. Professor Hartman.

PSYCHOLOGY

PROFESSOR YOUNG

Requirements for a major: Philosophy 1 or 2, Zoology 8, Economics 71, Psychology 5, 51, 60, 62, 63, and six additional hours in the department.

Requirements for a minor: Psychology 5, 8 or 10, 62, and ten additional hours in the department.

2. HUMAN NATURE. A birdseye view of man's instincts, capacities and mental traits. The laws of learning and habit-formation are emphasized. The principal aims of the course are: (1) to furnish a basis for the development of an effective method of study; (2) to present the principles that should be recognized in the conscious building of character; and (3) to develop greater social sympathy and understanding. *Second semester. Three credits.* Education Building. Professor Young.

5. GENERAL PSYCHOLOGY. An introductory course dealing with forms and laws of consciousness. Lectures, prescribed readings, term paper. Not open to Freshmen. Required for two-year Normal and high-school teacher's diplomas. *Either semester. Three credits.* Education Building. Professor Young.

8. PSYCHOLOGY OF CHILDHOOD. The development of consciousness through infancy and childhood, with special reference to the application of the principles of development to the training of children. Required for two-year Normal students. *Second semester. Two credits.* Education Building. Professor Young.

10. PSYCHOLOGY OF ADOLESCENCE. An intensive study of the characteristics dominant in the adolescent, with special emphasis upon applications to the work of the high-school

teacher. Required for high-school teacher's diploma. *Second semester. Two credits.* Education Building. Professor Young.

12. PSYCHOLOGY OF OCCUPATIONS. A brief review of the fundamental principles of psychology, and a study of their applications in the chief industries and occupations of mankind. *Second semester. Three credits.* Education Building. Professor Young.

51. SOCIAL PSYCHOLOGY. A study of the applications of psychology to the group-life of society: communities, parties, nations, mobs, amusements, etc. *Prerequisite:* Psychology 5, or its equivalent. *First semester. Two credits.* Education Building. Professor Young.

53. ADVANCED EDUCATIONAL PSYCHOLOGY. A study of the native endowment of the individual — instincts, capacities, individual traits—the learning process, and the psychology of elementary and high-school subjects. (Not given in 1921–1922.) *First semester. Three credits.* Education Building. Professor Young.

55. ABNORMAL PSYCHOLOGY. A study of the abnormal mind in its relation to behavior. The theory of the unconscious mind, sleep, dreams, hypnotism, and obsessions are major topics in the course. *Prerequisite:* Psychology 5, or its equivalent. *First semester. Two credits.* Education Building. Professor Young.

59. MENTAL MEASUREMENTS. Lectures, practice, readings. Description of the more important tests of general intelligence and special ability, with some practice in testing, grading and interpreting results. Special attention will be given to the testing of school children, tests as a means of classifying employees, army personnel, etc. *First semester. Three credits.* Education Building. Professor Young.

60. COMPARATIVE PSYCHOLOGY. The genetic history of consciousness in animals, savages and civilized human beings. (Alternate years. Not given in 1921–1922.) *Second semester. Two credits.* Education Building. Professor Young.

61. BUSINESS PSYCHOLOGY. A discussion and illustration of the mental laws upon which efficient buying, selling, advertising and the management of men are based. Alternate years. (Given in 1921–1922.) *First semester. Two credits.* Education Building. Professor Young.

62. EXPERIMENTAL PSYCHOLOGY. A laboratory course in the application of scientific methods to the study of mental

processes. Lectures, assigned readings, and laboratory. (Alternate years. Given in 1921–1922.) *Second semester. Three credits.* Education Building. Professor Young.

63. ADVANCED PSYCHOLOGY. An intensive study of selected problems. Lectures, readings and a term paper. *Prerequisite:* Psychology 5. *First semester. Two credits.* Education Building. Professor Young.

102. RESEARCH IN PSYCHOLOGY. The thesis subject may be chosen from the field of child study, social or experimental psychology. For graduate students and Seniors. *Prerequisite:* Psychology 5, and at least one course in the field in which the work is to be done. *Either semester. Two credits.* Education Building. Professor Young.

ROMANIC LANGUAGES AND LITERATURES

PROFESSOR SCHAPPELLE
ASSISTANT PROFESSOR STEINBRUNN

All French, Spanish, or Italian courses numbered above 10 are alternate-year courses.

French

Requirements for a minor in French: With no admission credit—French 1–2, 3–4, 5–6, and 8 units of Junior-Senior work. With two admission credits—French 3–4, 5–6, and 12 units of Junior-Senior work. With four admission credits—16 units of Junior-Senior work.

Requirements for a major in French: With no admission credit—French 1–2, 3–4, 5–6, and 16 units of Junior-Senior work. With two admission credits—French 3–4, 5–6, and 20 units of Junior-Senior work. With four admission credits—20 units of Junior-Senior work.

All candidates for either a major or a minor are advised to take History 79–80.

1–2. BEGINNING FRENCH. Drill in essentials of grammar and in translating simple English into French and French into English. Modern French stories and plays. *Both semesters. Six credits for the year. Total course only accepted towards graduation.* 102 Stewart Hall.

3–4. SECOND-YEAR FRENCH. Grammar. French Prose and Poetry. Grammar review. *Prerequisite:* French 1–2, or two years of high-school French. *Both semesters. Two credits each semester.* Students taking this course, with the exception of science students, are required to take French 5–6 the same year. 102 Stewart Hall.

5–6. ELEMENTARY FRENCH PROSE COMPOSITION AND CONVERSATION. Required for those students taking French 3–4. *Both semesters. One credit each semester.* 102 Stewart Hall.

51–52. HISTORY OF THE FRENCH NOVEL. Rapid reading of

masterpieces of French fiction: Balzac, Sand, Mérimée, Flaubert, Zola, Daudet, etc. Essays in French required on books read. *Prerequisite:* French 3–4. *Both semesters. Two credits each semester.* 102 Stewart Hall.

53–54. FRENCH POETRY. A study of the French lyric poets from Villon to recent times. *Prerequisite:* French 3–4. *Both semesters. Two credits each semester.* (Offered in 1921–1922.) 102 Stewart Hall.

55–56. INTERMEDIATE FRENCH COMPOSITION AND CONVERSATION. This course is designed to accompany French 53–54 and French 69 and 70. *Prerequisite:* French 5–6. *Both semesters. Two credits each semester.* (Offered in 1921–1922.) 102 Stewart Hall.

57–58. GENERAL SURVEY OF FRENCH LITERATURE. History of French literature with detailed study of special periods. Includes assigned outside readings and reports on authors read. *Prerequisite:* Four credits of Junior - Senior work. *Both semesters. Two credits each semester.* 102 Stewart Hall.

59–60. SCIENTIFIC FRENCH. Readings from standard French works on science. During the second semester current numbers of French scientific magazines, such as "La Science et la Vie," will be used as texts. This course is particularly recommended to premedical students and to those who wish to specialize in any one of the scientific fields. *Prerequisite:* French 3–4. *Both semesters. Two credits each semester.* 102 Stewart Hall.

69. FRENCH CLASSIC DRAMA. A special study of the works of Moliére, Racine, Corneille. *Prerequisite:* French 3–4. *First semester. Two credits.* (Offered in 1921–1922.) 102 Stewart Hall.

70. FRENCH ROMANTIC DRAMA. A study of the drama of the romantic school, with special reference to the works of Victor Hugo. *Prerequisite:* French 69. *Second semester. Two credits.* (Offered in 1921–1922.) 102 Stewart Hall.

71. TEACHERS' COURSE. Lectures and discussions on the methods of teaching the Romanic languages, with special reference to French and Spanish. Inspection of available grammar and texts. *Prerequisite:* Four credits of Junior-Senior work in French or Spanish. *First semester. Two credits.* (Offered in 1921–1922.) 102 Stewart Hall.

72. TEACHERS' COURSE. Visiting classes and practice teach-

ing. Reports on observations. Class meets at times announced by instructor. *Prerequisite:* Romanic Languages 71. *Second semester. Three credits.* This course corresponds to Education 56 in the case of candidates for a diploma to teach French and Spanish in the high schools. (Offered in 1921–1922.) 102 Stewart Hall.

73–74. ADVANCED FRENCH COMPOSITION AND CONVERSATION. This course is designed to accompany French 51–52, or French 57–58. *Prerequisite:* French 5–6. *Both semesters. Two credits each semester.* 102 Stewart Hall.

Spanish

Requirements for a minor in Spanish: With no admission credit—Spanish 1–2, 3–4, 5–6, and 8 units of Junior-Senior work. With two admission credits—Spanish 3–4, 5–6, and 12 units of Junior-Senior work. With four admission credits—16 units of Junior-Senior work.

Requirements for a major in Spanish: With no admission credit—Spanish 1–2, 3–4, 5–6, and 16 units of Junior-Senior work. With two admission credits—Spanish 3–4, 5–6, and 20 credits of Junior-Senior work. With four admission credits—20 units of Junior-Senior work.

All candidates for either a major or a minor are advised to take History 59–60.

1–2. FIRST-YEAR SPANISH. Spanish grammar, reading, and composition. *Both semesters. Six credits for the year. Total course only accepted toward graduation.* 102 Stewart Hall.

3–4. SECOND-YEAR SPANISH. Modern Spanish prose and poetry. Grammar review: *Prerequisite:* Spanish 1–2. *Both semesters. Two credits each semester.* Students taking this course are required to take Spanish 5–6 the same year. 102 Stewart Hall.

5–6. ELEMENTARY COMPOSITION. Prose composition and conversation. *Both semesters. One credit each semester.* 102 Stewart Hall.

51–52. THE MODERN SPANISH NOVEL. Lectures and collateral reading. Special reference to the works of Pérez Galdós, Palacio Valdés, Blasco Ibáñez, etc. *Prerequisite:* Spanish 3–4. *Both semseters. Two credits each semester.* 102 Stewart Hall.

53–54. COMMERCIAL AND JOURNALISTIC SPANISH. Readings dealing primarily with Spanish-American social and economic conditions. Spanish commercial correspondence. *Pre-*

requisite: Spanish 3–4, 5–6. *Both semesters. Two credits each semester.* 102 Stewart Hall.

55–56. INTERMEDIATE SPANISH COMPOSITION AND CONVERSATION. *Prerequisite:* Spanish 5–6. *Both semesters. Two credits each semester.* (Offered in 1921–1922.) 102 Stewart Hall.

71–72. TEACHERS' COURSES. (See pages 208, 209.)

79–80. ADVANCED SPANISH PROSE COMPOSITION AND CONVERSATION. *Prerequisite:* Spanish 5 – 6. *Both semesters. Two credits each semester.* 102 Stewart Hall.

81–82. SPANISH CLASSICS. Literature of the Sixteenth and Seventeenth Centuries—Cervantes, Lope de Vega, Tirso de Molina, Calderón, etc. *Prerequisite:* Four credits Junior-Senior work. *Both semesters. Two credits each semester.* (Offered in 1921–1922.) 102 Stewart Hall.

83–84. GENERAL VIEW OF SPANISH LITERATURE. Lectures and collateral reading. *Prerequisite:* Four credits Junior-Senior work. *Both semesters. Two credits each semester.* (Offered in 1921–1922.) 102 Stewart Hall.

Italian

1–2. BEGINNING ITALIAN. Grammar, composition, and conversation. Reading of modern Italian prose. *Both semesters. Six credits for the year.* Total course only accepted toward graduation. 102 Stewart Hall.

27–28. ADVANCED ITALIAN. Prose and poetry of the Eighteenth and Nineteenth Centuries. Lectures and collateral reading: *Prerequisite:* Italian 1–2. *Both semesters. Two credits each semester.* 102 Stewart Hall.

77–78. THE MODERN ITALIAN NOVEL. Lectures and collateral reading. *Prerequisite:* Italian 1–2. *Both semesters. Two credits each semester.* (Given in 1921–1922.) 102 Stewart Hall.

Portuguese

51–52. BRAZILIAN PORTUGUESE. A study of grammar. Reading of texts on Brazilian subjects. Conversation. *Prerequisite:* Four units of Junior-Senior work in Spanish, or eight units of Junior-Senior work in French. *Both semesters. Two credits each semester.* (Given on sufficient demand.) 102 Stewart Hall.

VETERINARY SCIENCE

College of Agriculture

ASSOCIATE PROFESSOR LOCKETT

54. VETERINARY SCIENCE. A combination lecture and laboratory course covering dentition of farm animals and age determination, unsoundness, etc.; obstetrics; the more common ailments, their prevention and handling; wounds and their treatment; common drugs and their administration. *Prerequisite:* Zoology 1, Hygiene 53, and Zoology 51 of all students, and Bacteriology 51 of all students in Animal Husbandry–Dairying Division. *First semester. Lectures, three hours; Laboratory, two periods. Five credits.* 101 Hatch Hall. Associate Professor Lockett.

55. VETERINARY SCIENCE. A lecture course covering the more common infectious diseases of animals and methods of combatting same. *Prerequisite:* Bacteriology 51, Veterinary Science 54. *Second semester. Two credits.* 101 Hatch Hall. Associate Professor Lockett.

SHORT COURSES

1. PROSPECTORS' SHORT COURSE
2. DAIRY SHORT COURSE
3. HOME-MAKERS' SHORT COURSE

SHORT COURSES

PROSPECTORS' SHORT COURSE

Description—The Prospectors' Short Course is designed to aid the prospectors of Nevada, but is open to the residents of other States as well. The work includes lectures on prospecting, metallurgy, mineralogy, geology, chemistry, hygiene, sanitation, and mining law, together with laboratory work in assaying, mineralogy, power, and first aid to the injured. In the short time available it is impossible to cover any one of these subjects in detail, but an attempt is made to acquaint the prospector with as many practical points as possible, and to give him an opportunity to bring up for discussion any items which may not be clear to him.

Time—The Prospectors' Short Course will begin on Monday, January 16, 1922, continuing for four full weeks. The course is set at this time in order to enable the prospector to attend during the season when prospecting is least active.

Registration—Those who desire to attend the Prospectors' Short Course should register at the Registrar's office in Morrill Hall at 8 o'clock in the morning, January 16, 1922.

Expenses—Room and board may be obtained at Lincoln Hall, so long as accommodations are available, at the rate of $31 for the month. Room and board in town will cost slightly more than this. No charges are made for instruction in this course, but a fee of $5 is charged to cover the cost of the supplies used, extra expenses, etc. No text-books are required, although certain books are recommended. The students will be expected to provide themselves with notebooks.

Certificate—Upon the satisfactory completion of the course, a certificate will be issued.

SUBJECTS TAUGHT IN PROSPECTORS' SHORT COURSE

Sh. 1. *Prospecting*

Fifteen practical talks on prospecting as follows:

1. Definition, History, and Importance of Prospecting.
2. Where to Go and What to Take.
3. Aids to Surface Prospecting for Lodes.

4. Surface Prospecting Methods.
5. Outcrops and Their Meaning.
6. Underground Prospecting for Lodes.
7. Placer Prospecting.
8. Prospecting for Gold and Silver Lodes.
9. Prospecting for Copper, Lead, and Zinc Lodes.
10. Prospecting for Minor Metals.
11. Prospecting for Nonmetallic Minerals.
12. Prospecting for Oil and Gas.
13. Location of Mineral Deposits.
14. Valuation of Prospects.
15. The Business of Prospecting.

These talks are given by Director Lincoln, 100 Mackay School of Mines.

Sh. 2: *Metallurgy*

Outline of Metallurgy Lectures for Prospectors Short Course:

Lecture No. 1—Sampling Ores, etc.

Samples vs. specimens, proper and improper methods of sampling, salting samples.

Lecture No. 2—Valuation, Buying, and Selling Ores.

Assay value vs. commercial value, and how they compare; factors influencing the commercial value; ore rate schedules of smelting and ore-purchasing companies.

Lecture No. 3—Assaying Gold and Silver Ores.

Brief outline of the apparatus necessary, steps taken, type charges, and accuracy obtained. Discussion of blowpipe assaying and its limitations.

Lecture No. 4—Assaying for the Minor Metals, Copper, Lead, Zinc, etc.

Brief outline of the methods used for approximate analysis and for more exact methods.

Lecture No. 5—Metallurgical Treatment of Ores by Mechanical Methods.

Simple hand methods of panning, hand picking, and jigging; machine methods for coarse and for fine ores; flotation.

Lecture No. 6—Methods Used in Recovering Gold by Placering and Amalgamation.

Wet and dry methods.

Lecture No. 7—The Cyanide Process for Recovering Gold and Silver from Ores.

Brief outline of the main steps in the process.

Lecture No. 8—Smelting of Ores.

A brief description of the general application of this method of recovering metals as applied in cases of copper and lead.

Professor Walter S. Palmer, 100 Mackay School of Mines.

Sh. 3: *Mineralogy*

1. Introduction; characters of minerals; methods of classification and determination.
2. Iron minerals; Tungsten minerals; Manganese minerals.
3. Cobalt; Nickel; Zinc; Tin; Lead.
4. Bismuth; Arsenic; Antimony; Uranium; Molybdenum; Copper.
5. Barium; Calcium; Aluminum; Boron; Sulphur; Carbon.
6. Mercury; Silver; Gold; Potassium; Sodium.
7. Rock-forming minerals; silicates.
8. Conclusion.

Professor Jones, 202 Mackay School of Mines.

Sh. 4: *Geology*

1. Introduction; Processes active in and on the surface of the earth; Origin and classification of rocks.
2. Action of the atmosphere; Weathering; Residual ore deposits.
3. Action of running water; Transportation, sorting, and deposition; Placer deposits.
4. Origin and circulation of underground water; Solution; Deposition; Spring deposits.
5. Forces active in the interior of the earth; Diastrophism; Volcanism; Structure; Faulting.
6. Types of ore deposits; Magmatic segregations; Contact; Metamorphic deposits; Pegmatite veins.
7. Types of ore deposits; Deep-seated veins; Intermediate-depth veins; Shallow-depth veins.
8. Weathering of ore deposits; Outcrops; Secondary enrichments.
9. Nonmetalliferous deposits—Coal, Oil.
10. Mineral Resources of Nevada.
11. Relation of Geology to Mining; Value and limitation of a geologist.
12. General Lecture.

Professor Jones, 200 Mackay School of Mines.

Sh. 5: *Direct- and Alternating-Current Machinery*

This course of lectures supplemented by laboratory demonstrations is intended to cover selection, installation, and maintenance of the principal types of electrical machinery used in connection with mining and shop equipment. Both direct- and alternating-current apparatus will be studied, and a certain amount of time will be spent on the study of lighting and power circuits and wiring installations.

Professor Stanley G. Palmer, Electrical Building.

Sh. 6: *Chemistry*

This course consists of four lectures upon elementary chemistry. The first lecture gives a very brief outline of the general field of chemistry, aiming to give the student a hasty view of the subject-matter dealt with in the science of chemistry, and how chemistry is related to modern life. An attempt is made to explain the difference between an element and a compound, and to show what is meant by chemical action. The second lecture gives an outline of the general properties of precious metals; their more usual compounds, together with a short description of the elements with which they most frequently occur. The third lecture outlines a simple method for the separation and detection of the metals copper, silver, lead, and mercury, with the idea in view that the prospector in the field may be able to make the identification tests. The fourth lecture deals with the rare metals; their occurrence, properties, methods of identification, and value. All these lectures are given with experimental demonstration and with the idea in view that every part of the work shall be given in such a way that it can be applied by the prospector.

Dean Adams and Professor Sears, 206 Chemistry Building.

Sh. 7: *Hygiene and Sanitation*

The course comprises four lectures dealing with the fundamental principles of human health and disease with particular reference to keeping fit and avoiding infectious diseases under prospecting and mining-camp conditions. The topics discussed include the following: General structure and mode of operation of the human; causes of ineffective operation, disability and disease; the relation of food, water, air, dust, excretions, cleanliness, physical activity, recreation, and sleep to health; a sanitary mining camp; suggestions as to food, clothing, medical, and other supplies for the pros-

pector. The lectures will be illustrated with numerous diagrams, models, specimens, and simple demonstrations.

Professor Frandsen, 110 Agricultural Building.

Sh. 8: *Mine Rescue and First Aid*

The course in Mine Rescue as taught by the U. S. Bureau of Mines consists of five four-hour periods. Prospectors taking the work are taught how to proceed in case of mine fires, and are thoroughly trained in the use of self-contained oxygen breathing apparatus. In addition to wearing the apparatus they are taught how to test and assemble it. Trained men wearing this equipment can safely work in smoke and poisonous gases. This part of the course is elective.

The First-Aid course consists of fifteen hours work pertaining to the treatment of injuries and sustaining life in the patient until the doctor arrives. It is required of all students taking the Prospectors Short Course. Instruction is given in methods of controlling hemorrhage or bleeding; of treating burns and bandaging wounds; in resuscitation by artificial breathing of those who have been overcome by gas, drowning, or electric shock; and how properly to place splints for fractured bones. The course is specially designed for prospectors, as their work is of such a nature that a doctor is not always immediately available.

Staff of Car No. 1, U. S. Bureau of Mines.

Sh. 9: *Mining Law*

Four lectures on the principles of mining law illustrated by typical cases.

Vice-President Lewers, 100 Mackay School of Mines.

Sh. 10: *Surveying*

Lectures on approximate methods of surveying, useful to prospectors:

Lecture 1—Some of the fundamental principles of surveying and approximate methods not requiring elaborate or expensive instruments.

Lecture 2—The approximate surveying of mining claims and the use of compasses, including the Brunton hand transit.

Lecture 3—Explanation of the U. S. Geological Survey topographic maps and their utility, when coupled with an aneroid barometer, for purposes of exploration and prospecting.

Lecture 4—The underground surveying of small mines without the use of expensive instruments.
Dean Boardman, Electrical Building.

Sh. 11: *Gas Engines*

Practical talks and laboratory exercises on the use of gas engines.
Professor Sibley, Mechanical Engineering Laboratory.

DAIRY SHORT COURSE

In 1920–1921 a Dairy Short Course for butter-makers was given for five weeks, January 21 to March 5, inclusive. Four persons took all of the work and four persons took the afternoon lectures only. The work consisted of lectures and laboratory work in butter-making, lectures in dairy bacteriology, lectures and laboratory practice in testing milk, cream, and butter. Persons who finished this course satisfactorily and who have had at least six months of practical experience in a creamery are entitled to a short-course certificate.

In the future short courses in Dairying will be given at about the same time of the year when there seems to be a demand for it. The work will be varied according to the desire of the majority of the applicants.

HOME-MAKERS' SHORT COURSE

SHORT COURSE I—FOODS. This course includes a brief study of the functions of the different food groups, their sources and the amounts needed under varying conditions of life; planning meals in relation to food requirements; use of labor-saving equipment. *Three lectures a week.* Professor Lewis. Fee, $1.

SHORT COURSE II—MILLINERY. This course discusses type of hat suited to the individual, how to estimate amount of material needed; the making of hats and flowers, and their renovation. *Three laboratories.* Assistant Professor Pope. Fee, 50 cents.

SHORT COURSE III—CHILDREN'S CLOTHING. The general requirements of children's clothing from the practical hygienic and artistic standpoint will be considered. Old as well as new materials will be used in making of garments.

Three laboratories a week. Assistant Professor Pope. Fee, 50 cents.

SHORT COURSE IV—UNIT COURSE IN DRESSMAKING. This course includes the making of a dress form, consideration of color, texture, and design suitable for the individual; adaptation of commercial patterns, and the making of wool or silk dresses. *Three laboratories a week.* Miss Campiglia. Fee, 50 cents.

AFFILIATED ORGANIZATIONS

1. AGRICULTURAL EXPERIMENT STATION
2. AGRICULTURAL EXTENSION
3. THE STATE MINING LABORATORY
4. THE STATE HYGIENIC LABORATORY
5. LABORATORY FOR PURE FOOD AND DRUGS AND WEIGHTS AND MEASURES
6. THE STATE VETERINARY CONTROL SERVICE
7. UNITED STATES BUREAU OF MINES EXPERIMENT STATION

AFFILIATED ORGANIZATIONS

THE NEVADA AGRICULTURAL EXPERIMENT STATION

Staff

WALTER E. CLARK, Ph.D., LL.D., President of the University.
SAMUEL B. DOTEN, M.A., Director and Entomologist.
[1]F. L. BIXBY, C.E., Bureau of Public Roads, Irrigation Div., U.S.D.A.
GEORGE HARDMAN, M.S., Assistant Agronomist.
CHARLES E. FLEMING, B.S.A., Range Management.
EDWARD RECORDS, V.M.D., Veterinarian.
LYMAN R. VAWTER, D.V.M., Pathologist.
M. R. MILLER, B.S., Chemist.
MADGE L. FINK, B.A., Secretary to Veterinary Department.
MARTHA RYAN, Librarian and Secretary to Director.

Under the provisions of the Hatch Act, approved March 2, 1887, the Agricultural Experiment Station was organized in December of that year. From the Hatch Fund the Experiment Station receives $15,000 annually, and from the Adams Fund, created by the Adams Act of 1906, it receives a like amount. Neither fund can be applied to teaching or to the work of Agricultural Extension, because the object of both funds is the investigation by scientific methods of problems in the agricultural industry.

The Nevada Experiment Station has chosen problems for study in three fields:

I. The problems of the most effective use of a limited water supply in crop production.

II. The problems of animal disease in the livestock industry of the State.

III. The problems arising from the depleted condition of Nevada ranges for sheep and cattle.

For 1920–1921 the active project list of the Station is as follows:

Irrigation— HATCH FUND

25. Methods of Increasing Hay Production in the Humboldt Valley. 1919–1924. Project Leader, F. L. Bixby.

Range Management—

23. Revegetation of Depleted Ranges. 1916–Continuous. (Consolidating Projects 7, 8, 9, and 10 Hatch.) Project Leader, C. E. Fleming.

[1]U. S. Department of Agriculture cooperating.

24. Methods of Increasing the Percentage of Lambs in Nevada Flocks, 1919–1921. **Project Leader, C. E. Fleming.**
26. Feeding and Finishing Range Ewes and Lambs. 1920–Continuous. Project Leader, C. E. Fleming.
27. Pasturage and Ensilage Production for Sheep. 1920–Continuous. Project leader C. E. Fleming.

Veterinary Science— ADAMS FUND

16. Hemorrhagic Disease in Cattle. 1914–Continuous. Project Leader, Dr. Edward Records.

Entomology—

19. Biting-Flies of Cattle. 1916–1921. Project Leader, S. B. Doten.

Range Management—

20. White Sage Studies. 1916–Continuous. Project Leader, C. E. Fleming.
22. Poisonous Range Plants. 1916 (Hatch). 1918–Continuous. (Consolidating Project 6, Hatch, and Project 14, Adams.) Project Leader, C. E. Fleming.

AGRICULTURAL EXTENSION DIVISION

Cooperating Parties

THE PRESIDENT AND THE BOARD OF REGENTS OF THE UNIVERSITY OF NEVADA.

THE STATES RELATIONS SERVICE OF THE UNITED STATES DEPARTMENT OF AGRICULTURE.

THE NEVADA STATE FARM BUREAU, INC.

THE COUNTY FARM BUREAUS.

Administrative— *Staff*

CHARLES A. NORCROSS, A.B., Director.

CECIL W. CREEL, B.S., County Agent Leader.

MARGARET M. JOHNSON, M.A., State Leader Home Demonstration Agents.

MERLE D. COLLINS, State Leader in Club Work.

JOHN POHLAND, Secretary.

EDA L. CARLSON, Stenographer.

Extension Specialists—

STEPHEN LOCKETT, V.M.D., Field Agent in Animal Diseases.

VERNER E. SCOTT, B.S., State Leader in Dairying.

MERLE D. COLLINS, B.S., Poultry Husbandry.

ROBERT STEWART, Ph.D., Dean of the College of Agriculture, Soil Specialist.

FREDERICK W. WILSON, M.S., Professor of Animal Husbandry.

County Agricultural Agents—

JOSEPH W. WILSON, B.S., Humboldt County, Winnemucca.
EARL M. DOBBS, V.M.D., Clark and Lincoln Counties, Las Vegas.
CHESTER A. BRENNEN, B.A., County Agent, Elko County, Elko.
J. CARLOS LAMBERT, B.S., Dry-Farm Specialist, Elko County, Metropolis.
GARDNER L. CHISM, B.S., White Pine County, Ely.
SEWELL EGBERT MERRILL, B.S., Washoe County, Reno.
ALBERT J. REED, B.S., Churchill County, Fallon.
THOMAS BUCKMAN, B.S., Lyon County, Yerington.

County Home Demonstrators—

AMELIA S. CONANT, Churchill County, Fallon.
KATHERINE SMITH, B.S., Humboldt and Lyon Counties.
FLORA E. MCELHINNEY, Elko County, Elko.
HAZEL ZIMMERMAN, B.S., Washoe County, Reno.

County Club Leaders—

LEAH BARKER, B.S., Lyon County, Yerington.
MILDRED MESKIMONS, B.S., Elko County, Wells.

Cooperative Extension Work in Agriculture and Home Economics is organized and conducted in Nevada under the provisions of the Smith-Lever Act of Congress, approved March 8, 1914. The Agricultural Extension Division as established under the Memorandum of Understanding, dated September 8, 1914, is a "definite and distinct administrative division" of the University of Nevada, coordinate in rank and affiliating with the College of Agriculture and the Agricultural Experiment Station. All the extension activities of the College of Agriculture and the United States Department of Agriculture in Nevada are conducted through this department.

The nature of the work is defined in general terms by law as "the giving of instruction and practical demonstrations in agriculture and home economics to persons not attending or resident in said colleges in the several communities, and imparting to such persons information on said subjects through field demonstrations, publications, and otherwise."

The work is outlined in written projects and budget annually entered into by the cooperating parties. There are five major project divisions, as follows: Administrative; College, Station, and Extension Specialists; County Agent Work; County Home Economics Work, and County Boys and Girls Club Work.

The organization for Extension work in Nevada comprises an administrative and special staff, resident at the

University; the Nevada State Farm Bureau, and a County Farm Bureau in each county, organized pursuant to the Nevada Farm Bureau Act, approved April 1, 1919, as amended March 4, 1921, and the cooperative employment in each county so organized of a County Agricultural Agent, a Home Demonstration Agent, and, if funds permit, a County or a District Club Leader, in charge of junior Extension work. The State Farm Bureau and each County Farm Bureau are incorporated as quasi-public corporations; annually elect a board of directors; adopt, with the approval of the Extension division, an annual budget and program for Extension work, and are in immediate charge of the work, subject to the terms of such programs of work.

THE STATE MINING LABORATORY

Staff

WALTER E. CLARK, Ph.D., LL.D., President of the University.
FRANCIS CHURCH LINCOLN, E.M., Ph.D., Director.
J CLAUDE JONES, B.A., Geologist and Mineralogist.
WALTER S. PALMER, E.M., Metallurgist.
HENRY E. HIGGINS, Analyst.

The State Mining Laboratory was organized at the University of Nevada in 1895 under the provisions of an Act approved on March 16 of that year. Its object is to assist the mining industry of Nevada by making free analyses of minerals and ores taken from within the boundaries of Nevada by its citizens, and by reporting to the senders the results of such analyses, together with the uses and market values of the substances submitted.

The routine analyses and mineral determinations are made by the analyst. Unusual rocks and minerals are determined by the geologist and mineralogist, while the special tests are made by the metallurgist. The director exercises general supervision over the work of the laboratory.

Samples and specimens are listed and distributed in the order in which they are received at the laboratory, and are analyzed essentially in this order, but reports do not go out in the same order since some assays take much longer than others. The results obtained by analysis are given upon the reports for all substances except gold and silver. All that

the law permits is a statement that gold or silver is present in value above or below $5 per ton.

The State Mining Laboratory is open from 8 to 12 a. m. and 1 to 5 p. m. daily, with the exception of Saturday afternoons and Sundays. The records of the laboratory are open to inspection, but visitors will not be permitted to see copies of reports until sufficient time has elapsed for the original reports to reach the hands of the senders.

THE STATE HYGIENIC LABORATORY

(Sierra and Fifth Streets)

Staff

WALTER E. CLARK, Ph.D., LL.D., President of the University.
[1]GUSTAV FERDINAND RUEDIGER, M.D., Ph.D., Director.
[2]ALICE L. THOMPSON, M.D., Acting Director.
CATHERINE MENEA, Stenographer.

The State Hygienic Laboratory was organized during 1909, under the provisions of an Act of the Legislature approved March 25, 1909. The object of the laboratory is to provide facilities for the diagnosis of the infectious diseases and for research into the nature, cause, and methods for the control of such diseases. The services of the laboratory staff are available to the physicians, health officers, and health boards of the State for the diagnosis of certain communicable diseases. Advice and assistance will, on request, be rendered the sanitary officials in the control of outbreaks of infection and in securing sanitary supplies of milk and water.

The following outline may serve to give an idea of the scope of work that is being performed by the laboratory:

1. Examination of throat cultures for the diagnosis of diphtheria or for release from quarantine.
2. Examination of sputum for tubercle bacilli.
3. Widal tests for the diagnosis of typhoid fever.
4. Examination of blood smears for diagnosis of malaria.
5. Examination of smears of urethral pus for the diagnosis of gonorrhea.
6. Examination of pus smears from conjunctivitis and other suppurating foci to determine the nature of infection.
7. Wasserman tests for the diagnosis of syphilis.

[1]Resigned, December, 1920. [2]January 1 to June 30, 1921.

8. Microscopic examination of urinary sediment for the presence of tubercle bacilli in suspected tuberculosis of the kidney; also for the presence of casts, pus, and blood.

9. Bacteriological water analyses. Persons desiring a water analysis should correspond with the laboratory before sending the sample. Samples submitted in unsterile bottles and not packed in ice will not be accepted for bacteriological analysis.

Proper containers are distributed to physicians and health officers free of charge for the collection and transmission of specimens.

The results of the work of the laboratory are made public from time to time through bulletins, circulars, and annual reports, and will be sent free on request to residents of the State who desire them.

Laboratory for Pure Food and Drugs and Weights and Measures

(Sierra and Fifth Streets)

Staff

Walter E. Clark, Ph.D., LL.D., President of the University.
Sanford Crosby Dinsmore, B.S., Commissioner.
Wayne B. Adams, B.S., Assistant Chemist and Inspector.
Catherine Menea, Stenographer.

An Act providing for the inspection and analysis of foods, drugs, and liquors, manufactured or offered for sale within the State, was passed by the 1909 session of the Legislature, and became effective on January 1, 1910. The state law is modeled after the National Food and Drugs Act of June 30, 1906, and provides that all rules, regulations, definitions, and decisions proclaimed by the Secretary of Agriculture for the enforcement of the national law shall be adopted by this department in the enforcement of the state law.

With such provisions Nevada receives valuable aid through the federal regulations, and avoids conflict with neighboring States having laws also modeled closely after the national Act. Uniformity in state and national laws, and cooperation among officials is much to be desired, and more can be accomplished under such conditions than by working under laws

that are dissimilar or antagonistic to established regulations that have been in vogue in States maintaining food laws for a number of years.

The laws of this State, being similar to the national law, obviate the necessity of manufacturers providing special labels to meet any special requirements that otherwise might exist in this State. Often labels are submitted to this department for approval or correction so that they will comply with the Nevada food law.

An Act concerning and fixing standard weights and measures, and to regulate the sale of commodities or articles of merchandise according to such standards, was passed by the 1911 Session of the Nevada Legislature and became effective January 1, 1912.

The standard weights and measures adopted by the Government of the United States have been adopted as the legal standard of weights and measures throughout the State of Nevada. With this adoption Nevada receives aid through the federal regulations and promotes uniformity in state and national standards.

THE STATE VETERINARY CONTROL SERVICE

Staff

WALTER E. CLARK, Ph.D., LL.D., President of the University.
EDWARD RECORDS, V.M.D., Director.
LYMAN R. VAWTER, D.V.M., Pathologist.
STEPHEN LOCKETT, V.M.D., Field Veterinarian.
L. MARJORIE COWGILL, M.A., Laboratory Technician.
MADGE L. FINK, B.A., Secretary.
[1]RUTH MILLER, B.A., Secretary.

Employees of State Board of Stock Commissioners Cooperating with State Veterinary Control Service

WARREN B. EARL, D.V.M., Veterinary Inspector.
EARL M. DOBBS, D.V.M., Veterinary Inspector.
W. H. HILTS, D.V.M., Veterinary Inspector.
MARY PAINTER, B.A., Clerk.

The State Veterinary Control Service was organized during 1915, under the provisions of an Act of the Legislature

[1]Resigned December 1, 1920.

approved March 11, 1915. The object of this Department is to provide facilities for the routine diagnosis of communicable diseases of domesticated animals in the laboratory and the field, and to conduct research into the nature, cause, and means of control of such diseases, including the manufacture and distribution of special sera and vaccines for their control when these cannot be procured in the open market. This is intended to supplement the more elaborate research projects of the Department of Veterinary Science of the Agricultural Experiment Station and aid in the field work carried on by the Division of Agricultural Extension of the College of Agriculture and the State Board of Stock Commissioners. From time to time bulletins and circulars dealing with the communicable diseases of domesticated animals and the most modern means of controlling the same are prepared and distributed jointly with the Agricultural Extension Division of the College of Agriculture.

The Director is ex officio State Quarantine Officer. The services of the staff are available to the veterinarians and livestock owners of the State in the diagnosis and control of communicable diseases of live stock.

UNITED STATES BUREAU OF MINES EXPERIMENT STATION

Staff[1]

SAMUEL C. LIND, Ph.D., Superintendent.
WILL H. COGHILL, E.M., Metallurgist.
JOHN P. BONARDI, E.M., Assistant Chemist.
CHARLES W. DAVIS, B.S., Assistant Chemist.
CARL O. ANDERSON, M.S., Assistant Metallurgist.
CLAUDE GORDON, Senior Clerk.
MATTIE J. BROWN, Junior Clerk.

The Legislature of Nevada passed an Act in March, 1919, providing funds to house an experiment station of the United States Bureau of Mines at the University of Nevada. In June, 1920, the Bureau of Mines accepted the offer and agreed to establish one of its twelve field stations in the quarters provided by building an addition to the Mackay School of Mines Building. The new addition provides office and laboratory facilities for the present staff of the station, and allows for some future expansion of the work.

[1]One or two vacancies will be filled during 1921.

The Nevada Station is known as the Rare and Precious Metals Experiment Station. The scope of the work embraces investigations on gold, silver, platinum, and the rare metals for the entire United States, and of other problems having especial importance for the mining and metallurgical industries of Nevada.

The laboratories and library of the Station will be found described elsewhere in this catalogue.

THE SUMMER SESSION

THE SUMMER SESSION, 1921

JUNE 20 TO JULY 29

The ninth annual Summer Session of the University of Nevada will begin Monday, June 20, 1921, and will continue through Friday, July 29, this session covering six weeks.

This summer the University of Nevada proposes to do all in its power to make the Summer Session one of inspiration, information and recreation for all the teachers of this great State who are seeking a vacation which is both profitable and pleasurable.

THE DORMITORY

Manzanita Hall (for young women) is a building of modern construction, of the very best equipment in ventilation, heating, and lighting, and the rooms are comfortably furnished. The hall has accommodations for about seventy-five women. Summer Session students coming to Manzanita Hall should provide their own bedding and towels.

For the Summer Session the dormitory will open Saturday, June 18, 1921.

All women planning to live in the dormitory should bring with them towels, bed linen, and bedding. Only mattresses and pillows are furnished.

Men students will have no difficulty in securing accommodations in private homes or in apartments.

THE UNIVERSITY DINING-HALL

For the students of the Summer Session the University will open the University Dining-Hall. The equipment and service are organized with a view of securing board and table service of the most acceptable character, and, unless students have relatives or friends in Reno with whom they want to make arrangements, they will find it very advantageous to share the community life of the dormitory and dining-hall.

ADMISSION

No entrance examinations will be required. Instruction is open to any one of sufficient academic preparation to profit by it.

CREDITS AND CERTIFICATION

No University credit is allowed for the various courses except for students who are duly qualified through graduation from an accredited high school or who meet the matriculation requirements in some other way. No one may register for more than 6 credits except upon evidence of special ability approved by the Director. It is assumed that this will occupy the full time of the student, and, therefore, the custom of allowing auditors will be discontinued.

A student wishing to secure an elementary or high-school teacher's certificate may find it advantageous to meet a few of the requirements by summer-school study. *Second-grade* elementary certificates, good for three years, are granted to those who satisfy the entrance requirements of the University and complete one year of the normal course. The required subjects in this course, offered in the Summer Session of 1921, are: Education Sm. 20, 23, 28, 31, 37, 42, 46; English Sm. 1; Biology Sm. 1, 3; Music Sm. 1; Art Sm. 1; Physical Education Sm. 1. The subjects required *in addition* for the first-grade certificate which are offered in the Summer Session are: Psychology Sm. 5 and Sm. 8. Courses valuable for high-school teachers are: Hygiene Sm. 3; Economics Sm. 5; Sociology Sm. 7; Education 23; Education 28; English 47; Psychology 5, 51; and Romanic Languages.

TEACHERS FROM OTHER STATES

Progressive teachers from other States are always welcomed by Nevada to positions for which they show superior qualifications if they can present a license from their own State to teach in the same grade of schools in which they seek appointment here. The State Board of Education is, however, quite insistent that these candidates should show that familiarity with Nevada conditions which is indispensable to their success in this school system. The acquaintance which is thus desired can be most easily established by attendance at the University Summer Session.

EXPENSES

Every student pays an enrollment fee of $7.50. Board may be had at the University Dining-Hall for $7 per week, and rooms for women at Manzanita Hall for $6 for six weeks. A $5 deposit fee for breakage will also be asked. For those who take Physical Education there will be a laundry fee of

25 cents. Text-books will cost from $5 to $12, depending upon the courses selected; excursions, $5 to $10 for the summer.

The tuition for the children who attend the Demonstration School will be $3 for the session, payable in advance. The sessions of this Demonstration School will begin at 8:40 and close at 11. Rooms 104–105, Education Building.

RAILWAY RATES

Student half-fare rates are available on the Virginia and Truckee Railway. To obtain the benefit of such half-rate, write to the Registrar of the University of Nevada, Reno, Nevada, for a certificate to be sent to the ticket office of the company granting this privilege. Such request should be sent to the Registrar at least three weeks prior to the time the teacher expects to arrive in Reno.

ADVANCE RESERVATIONS

As the accommodations of the University dormitory are necessarily limited, each prospective student who desires to have room and board on the University Campus is advised to make early reservation by application to the University Comptroller, accompanied by a reservation deposit of $7.50. This deposit will be reckoned later as covering the registration fee, or, in case the student making it is unable to attend the Summer Session, it will be returned upon application made prior to June 15, 1921.

REGISTRATION

The University offices will be open for registration of students on Monday, June 20, 1921, and all students are expected to register on that day. Class work will begin on Tuesday, June 21.

In this short session it is difficult to make up the loss of three or four days and at the same time try to carry on the regular advance work. Students should plan to come early in order to register and begin promptly.

GENERAL ASSEMBLY

A general assembly of students held once a week during the Summer Session will be devoted to especially arranged addresses.

EXCURSIONS AND RECREATION

The emphasis in the Summer Session will be placed upon study, yet there will be ample opportunities provided for excursions and other forms of recreation. Points of interest in and around Reno are the Nevada Historical Museum, the Nevada Packing Company, Lake Tahoe, Steamboat Springs, Bowers Mansion, Pyramid Lake, Virginia City, and Carson City, the State Capital, with their interesting associations. The faculty will cooperate in every way possible to organize trips for those groups of students who may wish to visit any of these places. Arrangements have been made with the President of the Nevada Historical Society to open that valuable and interesting collection to the students. In Reno there is a Y. M. C. A. with many recreational advantages which are open to the men for a nominal fee, and a Y. W. C. A. where all women are given a hearty welcome. The churches of Reno will afford the summer student an opportunity to hear stimulating sermons and good music.

THE SUMMER SESSION

FACULTY

Regular University of Nevada Staff

WALTER E. CLARK, Ph.D., President of the University of Nevada.
JOHN W. HALL, M.A., Director, Dean of the School of Education.
ALBERT E. HILL, English.
JAMES R. YOUNG, Psychology.
BENJAMIN F. SCHAPPELLE, Romanic Languages.
KATHERINE LEWERS, Art.
ELSIE SAMETH, Physical Education.
JAMES A. NYSWANDER, Mathematics.
FRED W. TRANER, Education.
MARGARET E. MACK, Biology.
SIDNEY W. WILCOX, Economics and Sociology.
EMMA C. DIEHM, Music.
VIOLA HALL, Education.

Special Summer-Session Staff

....., European and American History.
BLANCHE H. FROST, Haight School, Alameda, Calif., Education.
MOSES SHERMAN, High School, Sparks, Nevada, Commercial Subjects.

Lecturers

Dr. WALTER E. CLARK, President of the University of Nevada.
Mr. CHARLES S. KNIGHT, President of the Reno Chamber of Commerce.
Mr. W. J. HUNTING, State Superintendent of Public Instruction.
Mrs. FRANK HUMPHREY, General Federation of Women's Clubs; Division of Industrial and Social Conditions.
Mr. B. D. BILLINGHURST, Superintendent of Schools, Reno, Nevada.
Miss JEANNE E. WIER, Professor of History, University of Nevada.

COURSES OF INSTRUCTION

The center of interest for this summer's work will be in the Demonstration School. This school will consist of two rooms, with three grades each. Each grade will be limited to ten children. The school will be open to those students who register for Education 28. Those observing will be organized into groups so as to get the greatest possible benefit for the time spent. These groups will be formed according to special interests, and conferences will be held for the discussion of the lessons observed. Observation 28 may be

taken for a credit in addition to the 6 regularly allowed. Desultory observation is not considered particularly valuable, and will be discouraged.

COURSES OFFERED

Art

Sm. 1. ELEMENTARY ART. The fundamental principles of form, color, and light and shade. Application of principles in drawing and painting in all mediums, pencil, charcoal, oil color, water color, and pastel. Drawing and painting from nature in landscape and still life. Fundamental principles of design. *Two hours, three days per week. One credit.* 203 Education Building. Associate Professor Lewers.

Sm. 5. MANUAL ARTS. Construction in paper, cardboard, raffia, clay, etc. Coping-saw work, illustration, paper-cutting. Applied design, in all materials which can be used in a schoolroom. *Two hours, three days a week. One credit.* 203 Education Building. Associate Professor Lewers.

Biology

Sm. 1. NATURE STUDY. This course is designed to acquaint the student with the plant and the animal life of Nevada and to show how they may enliven the teaching of the regular school subjects. It comprises the study of life-histories, pond-life, native birds, etc., and includes suggestions for the making and care of aquaria, terraria, school gardens, etc. *Two credits.* 7 Agricultural Building. Assistant Professor Mack.

Sm. 3. TEACHERS HYGIENE. The object of this course is to give instruction in school and personal hygiene, paying particular attention to the problems of light, heat, and ventilation in the schoolroom, and also covering the elementary principles of human anatomy and physiology. The course consists of lectures, assigned readings, and demonstration. *Two credits.* Assistant Professor Mack.

Commercial Subjects

BOOKKEEPING. Text: Modern Illustrative Bookkeeping (Rogers and Williams). Forms and blanks to accompany text. Class will cover journalizing, posting, trial balance, statement, closing ledger, and proof balance. *No college credit.* 200 Education Building. Mr. Sherman.

PENMANSHIP. Text: The Palmer Method of Business Writing. This course will cover the principles of the Palmer method and practice. *No college credit.* 200 Education Building. Mr. Sherman.

Economics and Sociology

Sm. 5. ECONOMIC PROBLEMS IN UNITED STATES HISTORY. Introductory historical treatment of topics selected from the following list: The industrial revolution, the tariff, money and banking, public finance and taxation, the labor problem, the cooperative movement, railroads and governmental regulation, land policy, and immigration. History in the light of economic determinism and of personalism. *Five hours per week. Two credits.* 103 Education Building. Associate Professor Wilcox.

Sm. 7. RURAL SOCIOLOGY. Types of country life. Cooperation. Tenancy. Labor problems. The city drift. Health. Recreation. Roads. Home. School. Clubs. Church. Surveys. Organization. Leadership. *Two credits.* 103 Education Building. Associate Professor Wilcox.

Education

Sm. 20. PRINCIPLES OF TEACHING. For teachers in elementary schools. A study of the various types of classroom teaching to discover the principles of selection, organization, and presentation of subject-matter to children of the first six grades. *Two credits.* Professor Hall.

Sm. 23. PROBLEMS IN RURAL EDUCATION. A survey of Nevada school conditions, the need of Nevada rural communities, and the opportunity and responsibility of the rural school teacher for leadership among both children and adults are among the more important topics studied. *Two credits.* 207 Education Building. Associate Professor Traner.

Sm. 28. OBSERVATION. Required reading, reports, criticisms, and discussions. Miss Hall for the lower grades; Miss Frost for the upper grades. *One credit.* Associate Professor Sameth and Professor Hall.

NOTE—Students should bring all the books on method they possess. They should have special method books in the subjects they wish especially to observe. Observation conferences will be held at 10:30 or 11:25 daily. Students must reserve additional time for observation.

Sm. 31. ARITHMETIC FOR RURAL SCHOOLS. In this course an effort will be made to discover and work out in detail

problems of real interest to rural communities. *One hour daily. Two credits.* Associate Professor Nyswander.

Sm. 37. THE TEACHING OF GEOGRAPHY. A study of the modern aims in teaching geography, with discussion of the selection, organization, and presentation of suitable geographical material for the different grades. *Two credits.* 104 Education Building. Associate Professor Traner.

Sm. 42. THE TEACHING OF HISTORY AND CIVICS. A consideration of the aims of teaching history and civics and the effect of these aims on the selection, organization and presentation of subject-matter suitable for the grades. *Two credits.* 104 Education Building. Associate Professor Traner.

Sm. 46. LITERATURE SUITABLE TO THE GRAMMAR GRADES. Selections studied with a view to their fuller appreciation and enjoyment. *Two credits.* Professor Hill.

English

Sm. 1. COMPOSITION AND RHETORIC. The study of English as a means of self-expression and self-development. There will be written work, analysis of examples of good writing, and discussion of grammatical questions. *Two credits.* Professor Hill.

Sm. 47. AMERICAN LITERATURE SINCE 1870. The course aims to put the student in touch with the living literature of his country (as that reflects the life of today). *Two credits.* Professor Hill.

History

Sm. 55. AMERICAN HISTORY. Especially international rivalry; the advance of the American frontier and the rise of the new West, paralleled by topics designed to prepare prospective teachers for state examinations. *Two credits.*

Sm. 81. EUROPEAN HISTORY. Europe since 1819. Main tendencies in European history to 1914. *Two credits.*

Music

Sm. 1. ELEMENTS OF MUSIC. Notation and terminology; sight-singing; ear-training. *One credit.* 205 Education Building. Miss Diehm.

Sm. 7. ROTE-SINGING. A course in which the student will learn to sing correctly a large number of songs suitable for school and for community use. *One credit.* 205 Education Building. Miss Diehm.

Physical Education

Sm. 1. FRESHMAN PRACTICE. Free work, light apparatus, games, and folk-dancing. Lectures on personal and public hygiene, including sex hygiene. *One credit.* Gymnasium. Associate Professor Sameth.

Sm. 59. PUBLIC-SCHOOL GAMES AND ATHLETICS. Learning to play the various games appropriate for rural-school children. Mastering the rules of these games, and discussing the problems of coaching and of athletic contests. *One credit.* Gymnasium. Associate Professor Sameth.

Physiology and Hygiene

See Biology.

Psychology

Sm. 5. ELEMENTARY PSYCHOLOGY. A course in general psychology dealing with the forms and laws of consciousness. Lectures and prescribed readings. *Required for two-year Normal and high-school teacher's diploma. Two credits.* 211 Education Building. Professor Young.

Sm. 8. PSYCHOLOGY OF CHILDHOOD. The development of consciousness through infancy and childhood, with special reference to the application of the principles of development to the training of children. *Required for two-year Normal students. Two credits.* 211 Education Building. Professor Young.

Sm. 51. SOCIAL PSYCHOLOGY. A study of the applications of psychology to the group life of society: Communities, parties, clubs, nations, war and peace, amusements, etc. *Two credits.* 211 Education Building. Professor Young.

Romanic Languages

Sm. 1. FIRST-YEAR FRENCH (First Semester.) Drill in essentials of grammar and in translating simple English into French, and French into English. Modern French stories and plays. *Two credits.* Professor Schappelle.

—— OR ——

Sm. 1. FIRST-YEAR SPANISH (First Semester). Spanish grammar, reading, and composition. Modern Spanish stories and plays. *Two credits.* Professor Schappelle.

Sm. 3. SECOND-YEAR SPANISH (First Semester). Translation, reading, and grammar. *Two credits.* Professor Schappelle.

ROSTER OF STUDENTS

September, 1920—May, 1921

RECIPIENTS OF SCHOLARSHIPS AND HONORS

1920

The five REGENTS' SCHOLARSHIPS of $50 each for excellence in scholarship awarded to

Virginia Higgins — Evelyn Walker
Charles Chatfield — Ethel L. Steinheimer
George A. Cann

The ELLA SPRENGLE STUBBS SCHOLARSHIP of $50, awarded to
Valentine G. Olds

The ALICE G. CLARK SCHOLARSHIP of $250, given by W. A. Clark, Jr., of Los Angeles, awarded to
Margaret A. Barnes

The WOMEN'S LEAGUE OF THE UNIVERSITY SCHOLARSHIP of $25, awarded to
Evelyn R. Hitchens

The J. H. CLEMONS SCHOLARSHIP of $50, awarded to
Eldon Wittwer

The ALUMNI SCHOLARSHIP of $50, awarded to
Helen Wogan

The ANTELOPE VALLEY LAND AND CATTLE COMPANY SCHOLARSHIP of $100, awarded to
William Martin

The HOME ECONOMICS SCHOLARSHIP of $100, awarded to
Anne Underwood

The CHENEY SCHOLARSHIP of $100, awarded to
Leona Bergman

The LEWIS D. FOLSOM SCHOLARSHIP of $100, awarded to
Ernest A. Metscher

The HAYWARD H. HOWE SCHOLARSHIP of a $50 Liberty Bond, awarded to
Mildred C. Meiss

The RENO LODGE OF ELKS SCHOLARSHIPS of $300 each, awarded to

Thomas E. Buckman — Homer E. Johnson
Rose Mitchell — Edward C. Reed

The RENO LODGE OF ELKS MEMBERSHIP-SCHOLARSHIPS with remission of all lodge fees and dues until after graduation, awarded to

Thomas B. Jones — Joseph D. Hill
Richard P. Bryan — Donald R. Warren

GOLD MEDAL

Awarded annually to that member of the graduating class who has maintained the highest average grade in scholarship throughout his or her college course:

Herbert Dale Bruce and Helen Cahill

Seniors elected to the National Honor Fraternity of the PHI KAPPA PHI, election being based on scholarship:

Ameglio Andreucetti	Thomas Jones
Earl Borchert	Alice Kincaid
Phyllis Brown	Horace Olmsted
Herbert Bruce	William Shearer
Marian Hooton	Helen Cahill

HONOR STUDENTS

Seniors

Leila Sloan	Helen Cahill
Ameglio Andreucetti	Harry W. Capper
Herbert D. Bruce	Joseph D. Hill

Alice Kincaid

Juniors

Ernest A. Metscher	Virginia Higgins
Lulu Hawkins	John Gottardi

Sophomore

Evelyn Walker

Freshmen

Rose C. Mitchell	Evelyn R. Hitchens

George A. Cann

GRADUATES

Diplomas and Degrees were awarded on Commencement Day, May 12, 1920, as follows:

MASTER OF SCIENCE IN MINING ENGINEERING

Vincent Paul Gianella

MINING ENGINEER

Francis Dean Bradley

BACHELOR OF ARTS, COLLEGE OF ARTS AND SCIENCE

Ameglio Andreucetti
Adele Eileen Armstrong
John Stuart Belford
Helen Margaret Cahill
Dan Coll (May 8, 1918)
Veva Campbell Davis
Mildred Irene Griswold
Marian Lombard Hooton (December 20, 1919)
Francis Paul Hornaday
Alice Mary Kincaid
Avis Virginia Lothrop
Eleanor McWilliams
Jimmie Odbert
Salome L. Riley (August 1, 1919)
Catharine Frances Somers
Marie Elizabeth Sweetman
Lewis H. Wright

BACHELOR OF SCIENCE, COLLEGE OF ARTS AND SCIENCE

Herbert Dale Bruce
Harold Eugene O'Brien

BACHELOR OF SCIENCE IN MECHANICAL ENGINEERING

Lee Sidney Scott

BACHELOR OF SCIENCE IN CIVIL ENGINEERING

Harry W. Capper
Henry Hoadley Hart
William Shearer

BACHELOR OF SCIENCE IN ELECTRICAL ENGINEERING

Andrew Jackson Aikens
Albert Edmunds Cahlan
Nels Peter Carlesen, Jr.
Thomas Borth Jones
Horace Kenyon Olmsted
Vernon Colley Organ (December 20, 1919)

BACHELOR OF SCIENCE IN MINING ENGINEERING

Morris Badt
Earl Borchert
Simon Merenbach
Louie A. Meyer
Herbert A. Squires (December 20, 1919)

BACHELOR OF SCIENCE IN HOME ECONOMICS

Phyllis June Brown
Rachel A. Sprague

BACHELOR OF SCIENCE IN AGRICULTURE

Joseph Douglas Hill
John Malcolm Patterson

GRADUATES—*Continued*

TEACHER'S DIPLOMA OF HIGH-SCHOOL GRADE

Adele Eileen Armstrong
Phyllis June Brown
Helen Margaret Cahill
Veva Campbell Davis
Mildred Irene Griswold
Marian Lombard Hooton (December 20, 1919)
Alice Mary Kincaid
Avis Virginia Lothrop
Eleanor McWilliams
Jimmie Odbert
Catharine Frances Somers
Rachel A. Sprague
Marie Elizabeth Sweetman
Francis Paul Hornaday

TEACHER'S DIPLOMA OF GRAMMAR GRADE

Esther Anita Crump
Rose Marie Rey
Salome L. Riley (August 1, 1919)

TEACHER'S CERTIFICATE FOR ONE YEAR'S STUDY

Anna Mildred Davis
Mamie Elizabeth Delaplain
Ruth Lucile Hull
Anna V. Chatham (July 30, 1920)
Flo Z. Reed
Laura Frances Shurtleff
Mildred C. Meiss (July 30, 1920)
Dorris Brown (July 30, 1920)
Anna Lavenia Nichols

ROSTER OF STUDENTS

GRADUATE

Charles W. Bennett	Arts and Science	Reno
Mary P. Browder	Arts and Science	Fallon
Lois H. Codd	Arts and Science	Reno
William M. Charles	Agriculture	Reno
Mrs. Homer Derr	Arts and Science	Reno
Mrs. C. H. Kent	Arts and Science	Reno
Frank D. Lawyer	Arts and Science	Reno
Mrs. Blanche Preston	Arts and Science	Reno
Elsie Sameth	Arts and Science	Reno
Helena J. Shade	Arts and Science	Reno
Frederick E. Shapleigh	Agriculture	Reno
Leona Stillman	Arts and Science	Reno
Mrs. Vernon A. Vrooman	Arts and Science	Reno

SENIORS

Enola Badger	Arts and Science	San Francisco
Antonio L. Banzon	Arts and Science	P. I.
Margaret A. Barnes	Arts and Science	Reno
Leo I. Bartlett	Arts and Science	San Francisco
Edward Benson	Agriculture	McGill
Russell L. Boardman	Mech. and Elec. Eng.	Reno
John R. Bryan	Mines	Reno
Richard P. Bryan	Civil Engineering	Reno
Thomas E. Buckman	Agriculture	Modesto, Calif.
Peggy Emily Burke	Arts and Science	Reno
Harry W. Capper	Mines	Winchester, Va.
William L. Carter	Mech. and Elec. Eng.	San Francisco
Charles M. Chatfield	Arts and Science	Reno
M. Maurice Cory	Mines	Jerseyville, Ill.
Vera Dallas	Arts and Science	Modesto, Calif.
John M. Douglas	Mines	Reno
Gladys U. Dunkle	Arts and Science	Reno
George R. Egan	Mech. and Elec. Eng.	Reno
Marienne Elsie	Arts and Science	Grand Ledge, Mich.
Charles N. Frisch	Mech. and Elec. Eng.	Reno
Helen G. Fuss	Arts and Science	Lovelock
Earl V. Gelmstedt	Mech. and Elec. Eng.	Reno
John R. Gottardi	Arts and Science	Loyalton, Calif.
Gladys E. Grady	Arts and Science	Dixon, Calif.

Donald E. Hancock	Arts and Science	Reno
Arthur A. Harms	Arts and Science	McPherson, Kans.
Rose E. Harris	Arts and Science	Reno
Lula A. Hawkins	Arts and Science	Sparks
Virginia C. Higgins	Arts and Science	Lower Rochester
Thomas R. Hobbins	Mech. and Elec. Eng.	Reno
Adelaide M. Humphrey	Arts and Science	Reno
John L. Knight	Agriculture	Mineral Point, Wis.
Oliver W. Layman	Mech. and Elec. Eng.	Reno
Harvey E. Luce	Mech. and Elec. Eng.	Long Beach, Calif.
William Martin	Agriculture	San Leandro, Calif.
William E. Melarkey	Mech. and Elec. Eng.	Reno
Ernest A. Metscher	Mines	Carson City
Hazel C. Murray	Arts and Science	Reno
Valentine Olds	Arts and Science	Bishop, Calif.
Hallie T. Organ	Arts and Science	Reno
George Overstrom	Mech. and Elec. Eng.	Pasadena, Calif.
John A. Quigley	Mines	Downieville, Calif.
Frances Rainier	Arts and Science	Groveport, Ohio
Albert J. Reed	Agriculture	Davis, Calif.
Edward C. Reed	Mech. and Elec. Eng.	Davis, Calif.
Clarence D. Rice	Agriculture	San Anselmo, Calif.
Leila E. Sloan	Arts and Science	Tonopah
Morris T. Smith	Mines	Redding, Calif.
Lois E. Smyth	Arts and Science	Lower Rochester
Louise M. Sullivan	Home Economics	Virginia City
Anne R. Underwood	Home Economics	McLeansboro, Ill.
Noble Waite	Agriculture	Bunkerville
Alice Wall	Arts and Science	Fallon
Helen L. Wogan	Arts and Science	Sparks
Earl Wooster	Arts and Science	Reno
Gavin Yater	Agriculture	Berkeley, Cal.

JUNIORS

Leopoldo F. Abad	Mines	P. I.
Mary M. Beamer	Home Economics	Reno
Harry E. Benson	Mech. and Elec. Eng.	McGill
Beulah V. Booth	Home Economics	Reno
Thelma G. Braun	Arts and Science	Dayton
Editha Brown	Arts and Science	Reno
Norma Brown	Arts and Science	Reno
Rolf E. Brown	Agriculture	Goldfield
Leslie M. Bruce	Arts and Science	Reno
Clement G. Caffrey	Agriculture	Reno
Soren Christensen	Agriculture	Sparks

Arvella M. Coffin	Arts and Science	Reno
William Dewey Conrad	Mech. and Elec. Eng.	Lamoille
Perl A. Decker	Mech. and Elec. Eng.	East Ely
Gerry W. Eden	Arts and Science	Alleghany, Calif.
Philip R. Frank	Mech. and Elec. Eng.	San Francisco
John A. Frost	Mines	McGill
Reynold B. George	Agriculture	Nanticoke, Pa.
Marianne Gignoux	Arts and Science	Reno
Ernest W. Harker	Mines	Oakland, Calif.
June L. Harriman	Home Economics	Fallon
Gertrude G. Harris	Arts and Science	Reno
Lorenz C. Hitzeroth	Mech. and Elec. Eng.	Berkeley, Calif.
Merle S. Hyde	Arts and Science	Davis, Calif.
Homer E. Johnson	Arts and Science	Pittsburg, Kans.
Louella Murray	Home Economics	Reno
Waldo Emerson Poole	Arts and Science	Los Angeles, Calif.
Hugo M. Quilici	Arts and Science	Dayton
Thalia Rainier	Home Economics	Groveport, Ohio
Wilma A. Readle	Arts and Science	Auburn, Calif.
Woodfred E. Romig	Mines	Morgan, Texas
Lynne C. Ronnow	Mech. and Elec. Eng.	Panaca
Dorothy Ross	Arts and Science	Mendocino City, Calif.
*Inez Ann Russell	Arts and Science	Santa Rosa, Calif.
Herbert J. Shirley	Arts and Science	Reno
Gladys Smith	Home Economics	Fallon
George Smolak	Mech. and Elec. Eng.	New York City
Ethel L. Steinheimer	Arts and Science	Reno
Rowene R. Thompson	Arts and Science	Willits, Calif.
Ralph H. Twaddle	Civil Engineering	Carson City
Evelyn Walker	Arts and Science	Genoa
Francis P. Walsh	Arts and Science	Tonopah
Vera B. Wickland	Home Economics	Fallon
Eldon Wittwer	Agriculture	Bunkerville
Anthony Zeni	Arts and Science	Reno

SOPHOMORES

Lyn Arnold	Mines	Stevenson, Wash.
Stanley L. Bailey	Arts and Science	Reno
Leona B. Bergman	Arts and Science	Reno
Bertha Blattner	Arts and Science	Winnemucca
Dorothy L. Boardman	Arts and Science	Reno
Vesta E. Bradshaw	Normal	Reno
Anna Brown	Arts and Science	Sparks
George A. Cann	Arts and Science	Reno

*Died February 11, 1921.

William S. Cann	Arts and Science	Reno
Marcia R. Carter	Arts and Science	Reno
Ruth E. Carter	Normal	Smith
A. Louise Cazier	Normal	Wells
Genevieve N. Chatfield	Arts and Science	Reno
Henry M. Claussen	Mines	Reno
Adele Clinton	Arts and Science	Reno
Nellie E. Cobb	Arts and Science	Reno
Willis H. Church	Arts and Science	Reno
Basil W. Crowley	Civil Engineering	Oakland
Elbert D. Curtis	Mines	Reno
Francis C. Damrell	Arts and Science	Modesto
Evan Wells Davies	Arts and Science	Fallon
Stanley E. Davis	Mech. and Elec. Eng.	Elko
Adelaide Davis	Arts and Science	Reno
Servillino Derikito	Arts and Science	P. I.
Luella A. Dilworth	Normal	Tonopah
Harry C. Duncan	Arts and Science	Reno
Irene Dunn	Normal	Reno
Vincent P. Dunne	Arts and Science	Stockton, Calif.
James R. Eagleton	Arts and Science	Norman, Okla.
Bryan E. Egan	Mech. and Elec. Eng.	Tonopah
Theodore Fairchild	Arts and Science	Reno
Donald C. Finlayson	Agriculture	Prescott, Ariz.
Emerson W. Fisher	Civil Engineering	Fresno, Calif.
Forrest F. Frost	Mech. and Elec. Eng.	Ely
George A. Gooding	Agriculture	Sacramento, Calif
John Everett Gooding	Arts and Science	Sacramento, Calif.
Thomas H. Grant	Arts and Science	Altamont, Kans.
Lucas Guirnela	Mechanical Engineering	P. I.
Lewis M. Hardy	Civil Engineering	Los Angeles, Calif.
Charles H. Hardy	Agriculture	Los Angeles, Calif.
Dorothy W. Harrington	Arts and Science	Carson City
John H. Harrison	Arts and Science	Reno
Frank H. Hartung	Arts and Science	Reno
Paul A. Harwood	Arts and Science	Reno
Thressa B. Haughney	Arts and Science	Lovelock
Louis K. Hawkins	Mech. and Elec. Eng.	Carson City
Scott Hill	Mech. and Elec. Eng.	Reno
Evelyn R. Hitchens	Arts and Science	Reno
Erma A. Hoskins	Arts and Science	Winnemucca
Elizabeth K. Hunter	Arts and Science	Los Gatos, Calif.
Arthur M. James	Arts and Science	Elko
Lester C. Jones	Mech. and Elec. Eng.	Reno

Bertha M. Joerger	Arts and Science	Clarksville, Calif.
Rose Jorns	Arts and Science	Reno
Marcelline K. Kenny	Arts and Science	Carson City
Waldemar B. King	Mines	Petaluma, Calif.
F. Marie Lamon	Arts and Science	Los Angeles
John R. LarRieu	Arts and Science	Oakland, Calif.
Marc LeDuc	Arts and Science	Reno
Hans Lohse	Arts and Science	Fallon
Agnes S. Lowry	Arts and Science	Sacramento
Laurence E. Mathews	Mech. and Elec. Eng.	Reno
Mildred C. Meiss	Normal	Reno
Eleanor T. Miller	Normal	Reno
Charles Edgar Miller	Agriculture	Reno
Rose C. Mitchell	Arts and Science	Reno
Floyd F. Moffit	Mech. and Elec. Eng.	Reno
Georgie A. Money	Arts and Science	Fallon
John S. Moore	Arts and Science	Berkeley, Calif.
Kathleen E. Murphy	Arts and Science	Reno
Marion F. Muth	Arts and Science	Goldfield
Orren G. Oden	Mines	Modesto, Calif.
Eloise Ogilvie	Arts and Science	Berkeley, Calif.
Charley Mott Oliver	Mech. and Elec. Eng.	Hobart Mills
Emil J. N. Ott	Arts and Science	Nevada City, Calif.
Eric Otto	Mech. and Elec. Eng.	St. Helena, Calif.
Marguerite E. Patterson	Arts and Science	Lamoille
Evelyn Pedroli	Normal	Franktown
Frankie H. Porter	Arts and Science	Reno
Lawrence L. Quill	Arts and Science	Carson City
Catherine A. Ramelli	Arts and Science	Ventura, Calif.
Fay S. Reeder	Mines	Fresno, Calif.
Priscilla M. Reynolds	Arts and Science	Sparks
Agnes M. Riddell	Normal	Deeth
Mabel A. Riddell	Normal	Deeth
Jack R. Ross	Arts and Science	Yerington
Melvin D. Sanders	Mines	Eureka, Calif.
Mary A. Sewell	Home Economics	Elko
Arthur J. Shaver	Mech. and Elec. Eng.	Sparks
Clementine Shurtleff	Arts and Science	Reno
Dan Clark Simpson	Agriculture	Reno
Paul J. Sirkegian	Mines	Fresno, Calif.
Marjorie Stauffer	Arts and Science	Winnemucca
Harry E. Steele	Mines	Modesto, Calif.
Evelyn D. Stock	Normal	Virginia City
Margaret Neal Sullivan	Arts and Science	Reno

Nevis M. Sullivan	Arts and Science	Reno
William T. Thomas	Civil Engineering	Hobart Mills
Elizabeth F. Tinguely	Normal	Reno
William J. Weiser	Arts and Science	Reno
Howard W. Westervelt	Arts and Science	Winnemucca
Fred L. White	Mines	Reno
Charles Roland Williams	Arts and Science	Sparks
Dorothy E. Williams	Arts and Science	Los Angeles
Thomas Carroll Wilson	Arts and Science	Reno
Wilbur M. Wilson	Arts and Science	Dixon, Calif.
Howard R. Wilson	Arts and Science	Dixon, Calif.
Verna L. Wise	Arts and Science	Virginia City
Frances Allene Wright	Normal	Elko
William Otis Wright	Arts and Science	Reno

FRESHMEN

Alice P. Adams	Arts and Science	Reno
Elliott L. Adams	Arts and Science	Acampo, Calif.
Lyndel D. Adams	Arts and Science	Reno
Henry J. Ahlers	Mech. and Elec. Eng.	Dover, N. J.
Everett E. Aine	Arts and Science	Richmond, Calif.
Irene E. Backus	Normal	Golconda
Ida Justine Badt	Arts and Science	Wells
Elaine Baker	Arts and Science	Lovelock
Richard Barber, Jr.	Mech. and Elec. Eng.	Carson City
Carl A. Bachelder, Jr.	Arts and Science	Stockton, Calif.
Jacinto R. Batungbacal	Arts and Science	P. I.
Donald G. Bartlett	Arts and Science	Reno
Ralph H. Bennetts	Arts and Science	Silver City
Edgar T. Boardman	Civil Engineering	Reno
Harry Bogart	Agriculture	Oakland, Calif.
Russell Boner	Mines	Turlock, Calif.
John H. Bonestell	Arts and Science	Oakland, Calif.
Nenelta Boyce	Normal	Reno
Charles L. Boyd	Mech. and Elec. Eng.	Ely
Roy O. Boyer	Arts and Science	Reno
Freda Branch	Arts and Science	Fallon
Esther Breeze	Arts and Science	Fallon
James J. Brennan, Jr.	Arts and Science	Loomis, Calif.
Ramona P. Brockliss	Arts and Science	Gardnerville
Joseph F. Brooks, Jr.	Arts and Science	Richmond, Calif.
Charles E. Brown	Mech. and Elec. Eng.	Ione, Calif.
Frey M. Brown	Arts and Science	Gardnerville
Paul E. Brown	Arts and Science	Goldfield
Emily E. Brown	Arts and Science	Reno

Woodbury L. Bunnell	Mines	Reno
Leslie A. Burke	Mech. and Elec. Eng.	Reno
Willoise Butner	Arts and Science	Yerington
Neil C. Cadagan	Mech. and Elec. Eng.	Reno
John F. Cahlan	Mech. and Elec. Eng.	Reno
Marie Campbell	Arts and Science	Reno
Ernest J. Carlson	Civil Engineering	Arcata, Calif.
Beatrice Carroll	Arts and Science	Yerington
Joseph D. Cieri	Arts and Science	Reno
Harry S. Clinton	Arts and Science	Fallon
W. Lloyd Coates	Arts and Science	Cedarville, Calif.
Ashton R. Codd	Mech. and Elec. Eng.	Reno
Jessie L. Coil	Arts and Science	Westwood, Calif.
Helene B. Cordes	Normal	Gardnerville
Mary Virginia Cox	Arts and Science	Yerington
Walter Cox	Arts and Science	Yerington
Frank F. Cozzalio	Agriculture	Truckee, Calif.
Paul F. Crawford	Arts and Science	Reno
Foster W. Curtis	Mech and Elec. Eng.	Imperial, Calif.
Madelaine Dallas	Arts and Science	Modesto, Calif.
Edwin H. Delius	Mines	Berkeley, Calif.
Edward J. Dollard	Mines	San Francisco
Ivan Lothrop Dow	Arts and Science	Grass Valley, Calif.
Harold H. Downey	Mines	Sparks
Irene M. Doyle	Arts and Science	San Francisco
George F. Duborg	Arts and Science	Reno
Arthur C. Duncan	Mech. and Elec. Eng.	Reno
Erma D. Eason	Arts and Science	Carson City
William P. Eccleston	Arts and Science	Stockton, Calif.
Dwight W. Edwards	Civil Engineering	Carson City
Theodore G. Elges	Arts and Science	Gardnerville
Francis H. Eshbach	Mech. and Elec. Eng.	Stockton, Calif.
Gus Paul Falbaum	Mech. and Elec. Eng.	Cameron, Mont.
Frank J. Fanning	Mech. and Elec. Eng.	Virginia City
Dorotha E. Farwell	Normal	Litchfield, Calif.
Alma G. Fischer	Home Economics	Bellingham, Wash.
Helen M. Flanigan	Arts and Science	Reno
William P. Fong	Mech. and Elec. Eng.	Sacramento
Clarita A. Fortune	Home Economics	Fallon
LeRoy D. Fothergill	Mech. and Elec. Eng.	Carson City
Nelle Francis	Arts and Science	Sparks
George W. Franzman	Arts and Science	Reno
Harrison C. Gardiner	Mech. and Elec. Eng.	Oakland
Cecilia Carr Gardner	Arts and Science	Reno

Clara M. Gibson	Normal	Litchfield, Calif.
Jessie J. Gibson	Arts and Science	Litchfield, Calif.
Arleigh B. Glass	Mech. and Elec. Eng.	Selma, Calif.
Leo M. Gloster	Arts and Science	Alturas, Calif.
Dewey Goodwin	Arts and Science	Anadarko, Okla.
Harold S. Gorman	Arts and Science	Reno
Cecil H. Green	Arts and Science	Reno
William N. Green	Agriculture	Berkeley, Calif.
N. Patrickson Green	Mines	Carmel, Calif.
Ernest J. Greenwalt	Arts and Science	Sacramento
Gordon Griswold	Arts and Science	Elko
Thomas S. Griswold	Agriculture	Deeth
Louise R. Grubnau	Arts and Science	Sparks
Charles E. Haley	Arts and Science	San Francisco
Bernhard W. Hammert	Arts and Science	Anadarko, Okla.
Ellis D. Harmon	Arts and Science	Eureka, Calif.
Hortense Haughney	Arts and Science	Lovelock
Walker Havens	Mines	Piedmont, Calif.
Earl M. Hearne	Mech. and Elec. Eng.	Anadarko, Okla.
Ira A. Herbert	Mines	Stockton, Calif.
William S. Herndon	Arts and Science	Washington, D. C.
Charles D. Hicks	Mech. and Elec. Eng.	Reno
Helen R. Hislop	Arts and Science	Auburn, Calif.
George Hobbs	Mech. and Elec. Eng.	San Diego, Calif.
John H. Horn	Civil Engineering	Georgetown, Calif.
Noble G. Hueter	Mech. and Elec. Eng.	San Francisco
Harold Hughes	Agriculture	Reno
George C. Humphrey	Arts and Science	Reno
Daniel A. Indermuhl	Mines	Reno
David S. Jacobs	Mech. and Elec. Eng.	Reno
Ock P. Jee	Agriculture	Reno
Ray L. Jefferson	Civil Engineering	Reno
John T. Jepsen	Arts and Science	Minden
Noah P. Johnson	Arts and Science	Santa Cruz, Calif.
Bessie A. Jones	Home Economics	Reno
Louise O. Jones	Arts and Science	Reno
Doris E. Kane	Arts and Science	Carson City
Dorothy E. Kappler	Arts and Science	Carlin
Ennis F. Kinsella	Mech. and Elec. Eng.	Tonopah
Zelma Kitzmeyer	Arts and Science	Carson City
Dudley L. Kline	Mech. and Elec. Eng.	Reno
Myron L. LaKamp	Mech. and Elec. Eng.	Reno
Willard J. Larson	Mech. and Elec. Eng.	Mantica, Calif.
Homer J. Law	Arts and Science	Elko

Philip L. Lawton	Mines	Ripon, Calif.
Beatrice L. LeDuc	Home Economics	Reno
Merle LeMaire	Arts and Science	Battle Mountain
Walter C. Lester	Mech. and Elec. Eng.	Oakland, Calif.
Sara D. Lewis	Arts and Science	Reno
Carl W. Linholm	Arts and Science	McPherson, Kans.
Marion Lothrop	Arts and Science	Sacramento
Albert M. Lowry	Mech. and Elec. Eng.	Winnemucca
Verda L. Luce	Arts and Science	Tonopah
Charles D. Lucid	Mines	Ceres, Calif.
Merton S. Lyster	Mech. and Elec. Eng.	Eureka, Calif.
Jack E. Macdonald	Arts and Science	San Francisco
John D. Macdonald	Mech. and Elec. Eng.	Eureka, Calif.
Stillman L. Magee	Arts and Science	Oakland, Calif.
Robert D. Maclean	Civil Engineering	Carson City
John J. McElroy	Agriculture	Biggs, Calif.
Murdock McLeod	Mech. and Elec. Eng.	Tonopah
Kenneth McNeill	Arts and Science	Berkeley, Calif.
Janet H. Marshall	Arts and Science	Austin
Edward J. Martin	Arts and Science	Stockton, Calif.
Edward W. Martin	Mines	Fort Stockton, Texas
Dorothy Middleton	Arts and Science	Elko
Thomas B. Middleton	Mines	Elko
John P. Miller	Mech. and Elec. Eng.	Alturas, Calif.
Bonita E. Miles	Arts and Science	Reno
Wallace F. Milton	Arts and Science	Fallon
Julius C. Molina	Mines	San Diego, Calif.
Ogden F. Monahan	Arts and Science	Tonopah
Genevieve R. Morgan	Arts and Science	San Francisco
Ruth M. Moyer	Arts and Science	Auburn, Calif.
Margaret Murphy	Arts and Science	Reno
Richard H. Nash	Mech. and Elec. Eng.	Reno
Robert A. Nash	Mines	Reno
Carl W. Nelson	Arts and Science	Oakland, Calif.
Horace R. Nelson	Mech. and Elec. Eng.	Reno
Vivian A. Ninnis	Arts and Science	Reno
Harlow North	Arts and Science	Reno
Edgar M. Norton	Mech. and Elec. Eng.	Franktown
Jane B. O'Sullivan	Arts and Science	Reno
Margaret Owen	Arts and Science	Imola, Calif.
Orus Packard	Arts and Science	Magna, Utah
Eugene Palmer	Arts and Science	Stockton, Calif.
Willis H. Palmer	Arts and Science	Oakland, Calif.
Ray H. Parker	Mech. and Elec. Eng.	Lockeford, Calif.

Ottway Peck	Mech. and Elec. Eng.	Napa, Calif.
Ethel C. Perkins	Arts and Science	Caspar, Calif.
Peter J. Perry	Arts and Science	Yerington
Eunice H. Peters	Arts and Science	Sparks
Maurice F. Phelan	Mech. and Elec. Eng.	Reno
Robert A. Plaus	Mech. and Elec. Eng.	Loomis, Calif.
Willis R. Pressell	Mech. and Elec. Eng.	Reno
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Ewald Pyzel	Arts and Science	Piedmont, Calif.
Lourinda Rahbeck	Home Economics	Gardnerville
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Kenneth L. Rees	Arts and Science	Loyalton, Calif.
Theodore M. Reich	Mines	San Francisco
Harold W. Robinson	Arts and Science	San Francisco
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Donald A. Robison	Mech. and Elec. Eng.	Sparks
Helen M. Robison	Arts and Science	Sparks
Irving C. Roth	Arts and Science	San Francisco
Leslie M. Sanford	Mech. and Elec. Eng.	Fallon
Letitia Sawle	Arts and Science	Tonopah
William S. Sawle	Mines	Tonopah
Douglas Schwobeda	Arts and Science	Petaluma, Calif.
Chester M. Scranton	Arts and Science	Elko
Benton N. Scribner	Mech. and Elec. Eng.	Rocklin, Calif.
Nevada B. Semenza	Arts and Science	Reno
Daniel E. Schackman	Arts and Science	Los Angeles
Neil B. Shaber	Mech. and Elec. Eng.	Sparks
Fred J. Shair, Jr.	Agriculture	Reno
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Christopher H. Sheerin	Arts and Science	Tonopah
Chester Short	Mines	Reno
Vera L. Smith	Arts and Science	Reno
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Harold J. Sorenson	Mech. and Elec. Eng.	Arcata, Calif.
Matthew E. Spack	Arts and Science	Oakland, Calif.
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Bertha M. Standfast	Arts and Science	Goldfield
Fritz R. Stenzel	Arts and Science	San Lorenzo, Calif.
Annie E. Stephens	Arts and Science	Fort Bidwell, Calif.
W. Irminna Stevenson	Normal	Reno
Ruell J. Taylor	Arts and Science	Moab, Utah
William J. Thompson	Mech. and Elec. Eng.	Elko
Walter F. C. Tibbitts	Mech. and Elec. Eng.	Alameda, Calif.

Della E. Towle	Arts and Science	Auburn, Calif.
Irene Tusch	Arts and Science	Berkeley, Calif.
Opal Lee Underwood	Home Economics	McLeansboro, Ill.
James E. Valleau	Mech. and Elec. Eng.	Reno
Virgil Victor Vandiveer	Mech. and Elec. Eng.	Modesto, Calif.
Marie W. Wahl	Arts and Science	Reno
Carl B. Wahlund	Mech. and Elec. Eng.	Elko
Stewart E. Wasson	Mines	Reno
Helen F. Watkins	Arts and Science	Reno
Harold T. Weaver	Mech. and Elec. Eng.	Roseville, Calif.
Carleton Webb	Agriculture	Reno
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Isabel Wigg	Home Economics	Reno
Marguerite D. Wilkinson	Arts and Science	Reno
Lois M. Wilson	Arts and Science	Reno
Joseph P. Witmer	Mech. and Elec. Eng.	Los Angeles, Calif.
Margaret York	Home Economics	Fallon
Anna York	Home Economics	Fallon

UNCLASSIFIED

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James W. Bradshaw	Arts and Science	Reno
Davis Waite Bruce	Mines	Reno
Kenneth S. Butler	Mines	Tonopah
James W. Byrkit	Mines	Greencastle, Ind.
Mildred May Chandler	Arts and Science	Reno
Alpha Rulison Clark	Arts and Science	Reno
Alexander G. Cotter	Arts and Science	Reno
Doris DeHart	Arts and Science	Reno
Emma C. Diehm	Home Economics	Reno
John Donovan	Agriculture	Reno
Herman B. Eden	Civil Engineering	Nevada City, Calif.
Mahlon Fairchild	Agriculture	Reno
Myron V. George	Arts and Science	Altamont, Kans.
Robert B. Griffith	Civil Engineering	Las Vegas
Laurence A. Gulling	Mech. and Elec. Eng.	Reno
Earl R. Hammond	Mech. and Elec. Eng.	Fallon
Marguerite L. Howard	Arts and Science	Reno
Frances J. Jones	Arts and Science	Reno
Marie E. Litt	Arts and Science	Reno
Marie E. Locke	Arts and Science	Reno
Dorothy U. Percival	Arts and Science	Elko
Kathryn Sable	Arts and Science	Reno
Catharine F. Somers	Arts and Science	Reno

Georgiana Steiner	Arts and Science	Sparks
Vernon A. Vrooman	Arts and Science	Reno
Charles P. Witter	Arts and Science	Berkeley

SPECIALS

Alexander H. Aldrich	Agriculture	Sparks
Joseph E. Allen	Civil Engineering	Carson City
Harry P. Allen	Mech. and Elec. Eng.	Santa Barbara
Charles E. Beemer	Mines	San Francisco
Ferdinand W. Biddleman	Civil Engineering	Lovelock
Rinaldo Blasi	Arts and Science	Italy
Mrs. Katherine Bonner	Arts and Science	Reno
Mrs. C. L. Brown	Arts and Science	Reno
Mrs. Martha P. Brown	Arts and Science	Kersey, Colo.
Louis M. Calkins	Mines	Searchlight
Raymond T. Carroll	Arts and Science	Oakland, Calif.
Albert L. Cerveny	Mech. and Elec. Eng.	Carlstadt, N. J.
Mac Glenn Colton	Mines	Omaha, Neb.
Mark B. Colwell	Arts and Science	Elmira, N. Y.
Mrs. B. W. Crowley	Arts and Science	Oakland, Calif.
Stanley C. Davis	Mech. and Elec. Eng.	Reno
Herman R. Davis	Civil Engineering	Reno
Mildred Decker	Arts and Science	Reno
Gloria M. Drew	Arts and Science	Reno
Van S. Eden	Agriculture	Reno
George F. Edwards	Arts and Science	Reno
Robert G. Fell, Jr.	Arts and Science	Reno
John Flanigan	Agriculture	Reno
Herbert E. Foster	Arts and Science	Reno
Melvin C. Frailey	Arts and Science	Modesto, Calif.
Alexander H. Fraser	Arts and Science	Eureka, Calif.
Neil J. Gilligan	Arts and Science	New York, N. Y.
Mrs. Evelyn Glavis	Arts and Science	Reno
William M. Gordon	Mech. and Elec. Eng.	Reno
Sidney R. Hannah	Arts and Science	San Jose, Calif.
Arthur T. Harrison	Mech. and Elec. Eng.	Oakland, Calif.
Alexander D. Henderson	Mines	Lovelock
Jack Heward	Mech. and Elec. Eng.	Reno
Frank V. Hollister	Mech. and Elec. Eng.	Emmett, Idaho
William M. Ireland	Agriculture	Santa Barbara, Calif.
Theodore P. Jerome	Mech. and Elec. Eng.	Reno
Mrs. Delbert Jones	Arts and Science	San Diego, Calif.
Edward G. Kuhn	Agriculture	Reno
Judson D. Lamb	Mech. and Elec. Eng.	Reno

Floyd R. Locke	Arts and Science	Reno
Henry G. Loehr	Mech. and Elec. Eng.	Reno
Louis W. Lowe	Mech. and Elec. Eng.	Bandon, Oreg.
George W. Lund	Mech. and Elec. Eng.	Reno
Mrs. A. M. May	Arts and Science	Reno
Mrs. W. H. McClymonds	Home Economics	Reno
Mrs. Joan Martindale	Arts and Science	Boston, Mass.
Mrs. F. Metcalf	Arts and Science	Reno
Wallace McBain	Mech. and Elec. Eng.	Sacramento, Calif.
Daniel L. McNamara	Arts and Science	Stockton, Calif.
Jean McPherson	Arts and Science	San Francisco
Homer H. McReynolds	Arts and Science	Santa Rosa, Calif.
Mrs. Marjorie Miller	Arts and Science	Reno
Charles J. Miller	Arts and Science	Reno
LeRoy Morand	Agriculture	Reno
John W. Nash	Arts and Science	Verdi
Jack R. Naylor	Mines	Calistoga, Calif.
Leanor Nelson	Arts and Science	Reno
Gustaf K. Nordstrom	Agriculture	Sweden
Emil R. Peterson	Arts and Science	Reno
John Philbin	Mines	England
Robert M. Pierce	Mech. and Elec. Eng.	Reno
Jack Pike	Arts and Science	Reno
Mrs. L. R. Platt	Arts and Science	San Francisco
Gunder Rasmussen	Arts and Science	Denmark
Walter J. Reid	Arts and Science	Lake Foxaway, N. C.
George Walter Reimers	Arts and Science	Oakland, Calif.
Frank Schafer	Civil Engineering	Oakland, Calif.
Charles Schiller	Arts and Science	Reno
James E. Scott	Arts and Science	Austin
Alphonseus L. Sherry	Arts and Science	Clairton, Pa.
June Shipley	Arts and Science	Yerington
Clinton A. Smith	Mech. and Elec. Eng.	Carlin
Gordon J. Stewart	Arts and Science	Reno
Raymond B. Taylor	Mech. and Elec. Eng.	Reno
Clarence J. Thornton	Agriculture	Reno
Louis Titus	Agriculture	Van Nuys, Calif.
David H. Tobias	Arts and Science	San Francisco
Elmer J. Towle	Arts and Science	San Anselmo, Calif.
James J. Tunny	Mines	Reno
John Wall	Mech. and Elec. Eng.	Fallon
Harold F. Whalman	Arts and Science	Oakland, Calif.
Cornelia Williamson	Arts and Science	Berkeley, Calif.
David G. Williamson	Arts and Science	Reno
Forest H. Young	Mines	Park City, Mont.

SUMMER SCHOOL, 1920

Sarah L. Adams.....Dayton
Margaret Barnes.....Reno
Carolyn M. Beckwith.....Reno
Agnes Bell.....Reno
Beatrice Belli.....Carson City
Mrs. Bertha C. Berger..Carson City
Mary S. Black.....Ely
Mrs. R. Blondheim.....Reno
Mrs. Jeannette Bragg.....Reno
Mrs. Mary B. Bray.....Sparks
Ardis C. Brown.....Reno
Dorris Brown.....Reno
Mrs. Adeline Bryan.....Reno
Frances Case.....Paradise Valley
Elizabeth Caughlin.....Reno
Anna V. Chatham.....Reno
Lydia Colyer.....Reno
Mrs. Pearl Connell.....Reno
Ethel Clayson.....Tecoma
Muriel Conway.....Reno
Kathryn Clark.....Reno
Nellie Cobb.....Reno
Dorothy Crandall.....Oakland
Mrs. Kirstine Doane..Gardnerville
Mrs. Florence Drake.....Reno
Mrs. Edith Duncan.....Reno
Irene Dunn.....Reno
Pauline M. Dunn.....Reno
Anna S. Elam.....Reno
Marienne Elsie.....Reno
Hyman S. Emil.....Reno
Eleanor Fahden....Calistoga, Calif.
Maude Frazier.....Sparks
Mrs. Laura Frazier.....Reno
Grace A. Fuss.....Lovelock
Mrs. V. C. Gartin.....Jiggs
Marianne Gignoux.....Reno
Stella Gianoli.....San Francisco
Neil J. Gilligan.....Reno
Helena D. Gleason.....Reno
Ada Goodale.....Deeth
Mrs. Jessie Greenough.....Tonopah
Mrs. Laura F. Greeley.....Sparks
Harold Gorman.....Reno
Gladys M. Green..Pocatello, Idaho
Mrs. Orva Hammersmark.....Reno
Fern Harden.....Berkeley, Calif.
June L. Harriman.....Fallon
Mary Henry.....Reno
Tannie R. Higgins.....Panaca
Billie Hill.....Parker
Edith F. Hurd.....Reno
Ock P. Jee.....Reno
Arlie J. Jessen.....Simpson
G. Quincy Keele.....Panaca
Zinie Kidder.....Berkeley, Calif.
Lela A. Lenfest....Berkeley, Calif.
Mrs. Florence J. Lowry..Paradise
Mrs. Louise Lucas.....Platora
Edith Lutzato.....Reno
Mrs. Ruth Mason.....Reno
Alice Meffley.....Reno
Mildred Meiss.....Reno
Ruth Manson.....Reno
Eleanor T. Miller.....Reno
Eleanor Mollart.....Yerington
Amy F. Mollart.....Yerington
Bernice Day Moore.....Minneapolis
Mrs. Anna Moore.....Reno
Margaret Myles.....Austin
Marie Norton.....Franktown
Della Oldham.....Elko
Valentine Olds.....Bishop, Calif.
Mrs. Amy H. Parker.....Cobre
Martha Patterson.....Carson City
Lorinne L. Peacocke.....Reno
Evelyn Pedroli.....Franktown
E. C. Pentland.....Reno
John Philbin.....England
Ina Powers.....Reno
Mrs. Hattie Powers.....Reno
Mrs. Blanche Preston.....Reno
Ruth Prichett.....Chico, Calif.
Mrs. Madge Raycraft..Carson City
Priscilla M. Reynolds.....Sparks
Nora M. Roberts.....Winnemucca

Sidney W. Robinson.....Reno
Ruth Scotford....Sebastopol, Calif.
June Shipley.....Yerington
Leila Sloan.....Tonopah
Carice Smith.....Mill Valley, Calif.
Elizabeth Smith.....Reno
Vera Smith.....Reno
Gladys Smith.....Fallon
Emma V. Smith.....Reno
Mrs. Grace Staples..Vallejo, Calif.
Mrs. Irene Stewart.....Reno
J. N. Stewart.....Reno
Johanna Sullivan.....Reno
Sadie Sullivan.....Virginia City
Audrey Thacker.....Imlay
Louise Vieira.....Carson City
Jewell A. Webb.....Sinton, Texas
Mary West.....Overton
Mrs. Mary Whipple.....Gold Hill
Verna L. Wise.....Gold Hill
Mrs. J. E. Wayman.....Ely
Vera Wickland.....Fallon
Ermie Woodhouse.....Arthur
Cora Younger.....Salt Lake City
Angelina E. Zeni.....Reno
Mrs. Ethel Zimmer.....Reno

PROSPECTORS' SHORT COURSE

Archie J. Allen.....Chico, Calif.
William E. Blackwell.....Reno
Neil Carmichael.....Reno
Charles F. Chorioz.....Reno
Samuel Etler.....Reno
George Garwood....Spokane,Wash.
H. Gobelman...Spring Valley,Wyo.
Charles LaKamp.....Reno
Richmond Lothrop.....Reno
Orin Smith.....Reno
Lon L. Tront.....Reno
Vernon A. Vrooman.....Reno
Fred E. Wilcox.....Yerington
Charles D. Woodhouse.....Reno

DAIRYING SHORT COURSE

F. Robert Browne.....Reno
Victor Gelmstedt.....Reno
William Hajessen.....Reno
N. J. Hansen.....Reno
Edmund F. Hook.....Reno
W. B. Montgomery.....Reno
Roy Richey.....Reno
H. C. Vonderhyde.....Carson City

HOME-MAKERS' SHORT COURSE

Mrs. Victor Becaas.....Reno
Elda M. Bierce.....Reno
Zoe Curtis.....Reno
Mrs. Herman Davis.....Reno
Mrs. Robert Dill.....Reno
Mrs. J. W. Gerow.....Reno
Frankie Gibson.....Reno
Mrs. E. L. Hall.....Reno
Mrs. E. S. Johnson.....Reno
Mary C. Langford.....Reno
Mrs. M. W. Lewellin.....Reno
Emily C. Lynch.....Reno
Mrs. James A. McDonald.....Verdi
Mrs. W. H. Menke.....Reno
Mrs. Thora J. Milisich.....Reno
Mrs. S. C. Mitchell.....Reno
Mrs. F. O. Norton.....Reno
Mrs. A. D. Reading.....Reno
Mrs. H. Record.....Reno
Mrs. Catherine Seaberg.....Reno
Mrs. P. J. Shea.....Reno
Mrs. R. L. Thompson.....Reno
Mrs. Victoria Travers.....Reno
Mrs. F. E. Walker.....Reno
Fern V. Wright.....Reno

ENROLLMENT SUMMARY

COLLEGE OF ARTS AND SCIENCE

Seniors	27	
Juniors	21	
Sophomores	65	
Freshmen	120	
Graduate	11	
Unclassified	17	
Specials	45	
		306

NORMAL SCHOOL

Sophomores	13	
Freshmen	7	
		20

COLLEGE OF ENGINEERING

Mackay School of Mines—

Seniors	7	
Juniors	4	
Sophomores	10	
Freshmen	20	
Unclassified	3	
Specials	8	
		52

School of Mechanical and Electrical Engineering—

Seniors	11	
Juniors	7	
Sophomores	12	
Freshmen	53	
Unclassified	2	
Specials	17	
		102

School of Civil Engineering—

Seniors	1	
Juniors	1	
Sophomores	4	
Freshmen	6	
Unclassified	2	
Specials	4	
		18

COLLEGE OF AGRICULTURE

School of Agriculture—

Seniors	8	
Juniors	5	
Sophomores	5	
Freshmen	9	
Unclassified	2	
Graduate	2	
Specials	9	
		40

School of Home Economics—

Seniors	2	
Juniors	7	
Sophomores	1	
Freshmen	9	
Specials	1	
Unclassified	1	
		21

Total University Schools		559
Enrollment of Men	361	
Enrollment of Women	198	
Total Summer School		112
Total Prospectors' Short Course		14
Total Dairying Short Course		8
Total Home-Makers' Short Course		25
Grand Total Enrollment		718

DIRECTORY OF OFFICERS AND EMPLOYEES

DIRECTORY

Officers, Faculty, Public-Service Workers, and Other Employees Connected with the University

All addresses are Reno, unless otherwise specified. Phone numbers given at end of each address.

Adams, Maxwell, Dean of the College of Arts and Science, Professor of Chemistry, 29 W. Ninth St. 1328-M.

Adams, Wayne B., Assistant Chemist, Food and Drug Laboratory, The Colonial. 197.

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Boardman, Horace P., Professor of Civil Engineering, 737 Evans Ave. 1341-W.

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Brennen, Chester A., County Agricultural Agent, Elko.

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Brown, Mattie J., Junior Clerk, U. S. Bureau of Mines, 812 N. Virginia St.

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Chism, Gardner A., County Agricultural Agent, Ely.

Clark, Walter E., President, University Campus. 959-W or J.

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Courtright, Raymond O. Athletic Director, 1111 N. Virginia St. 1220-W.

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Depoli, W., Irrigator University Farm, R. F. D. 1. 947-R.

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Frandsen, S. J., Laboratory Assistant, 739 West St. 1568-J.

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Hall, John Wm., Dean of School of Education, 424 W. Eighth St. 1747-W.

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Hill, C. R., Assistant Professor of Civil Engineering, 705 Mill St. 1729-J.

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Lesch, William E., Assistant in Military Department, 123 E. Sixth St.

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Lewers, Robert, Vice-President and Professor of Business Administration, 426 Lake St. 1213-W.

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Mack, Margaret E., Dean of Women, Assistant Professor of Biology, Manzanita Hall, University Campus. 928-J.

McDonough, Pearl, Janitress, 497 E. Seventh St. 1726-M.

McElhinney, Flora, County Home Demonstration Agent, Elko.

McFadden, A. E., Assistant on Grounds, 21 W. Ninth St.

Menea, Catherine, Stenographer, Food and Drugs and Hygienic Laboratories, 243 W. Third St. 1705-R.

Merrill, S. E., County Agricultural Agent, Extension Division, 316 Pine St.

Meskimons, Mildred M., District Club Leader, Wells.

Metcalf, Freda, Clerk in Comptroller's Office, 36 W. Ninth St. 1853-L-2.

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